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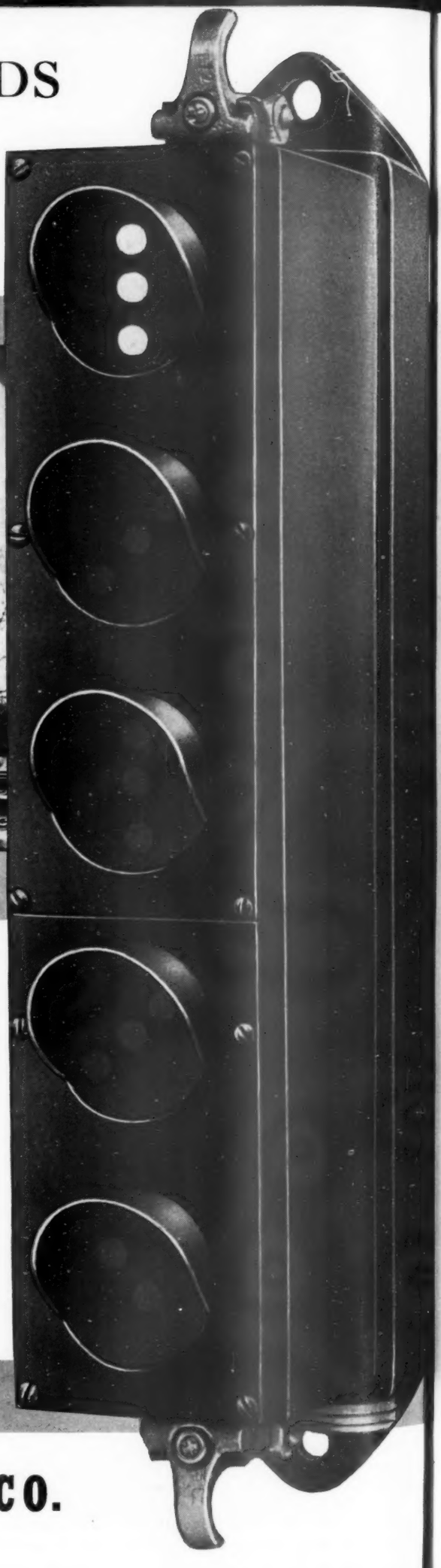
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RAILWAY AGE

How Fascism Comes

Spokesmen of organized labor and radicalism in this country frequently fume against Fascism. They see incipient Fascism in every economic or political activity intended to protect private property and the profits which alone make its ownership worth while.

The real reason for the development and spread of Fascism has been illustrated by the national election in this country on November 8 and by occurrences both before and since in Europe. The real reason is the reaction of the middle class in Europe and America against the efforts of labor unions and their radical political allies to take control of government and use it to exploit the middle class.

These efforts of labor unions and their political allies have had recently some remarkable results quite foreign from those for which they are intended. The "peace of Munich" resulted in a complete diplomatic victory by Fascist Germany and Italy over Democratic Great Britain and France. The recent difficulties between government and labor unions in France plainly indicate why the Fascist powers won at Munich. The French government was afraid to go to war with Germany and Italy because of labor difficulties at home, actually occurring or threatened, which she feared would weaken her. And the middle class in both Great Britain and France greatly disliked the prospect of going to war with communist Russia as an ally. Thus radicalism, and the middle class' dislike and fear of it, enabled Fascism to prevail over democracy, with the result of greatly increasing Fascism's strength in the world and greatly reducing that of both democracy and radicalism.

"Conservative" Labor Unions and Communism

If Fascism ever triumphs in the United States it will be due to a similar cause. The result of the recent election showed very plainly that the middle class in this country also is beginning to dislike and fear the labor unions and their radical allies. Is there justification for this? Most labor unions pretend to be very hostile to the communists. But what real difference is there between communism and the policies favored by even the "conservative" labor unions? Communism is the socialization of all property by force. "Socialization" is the transfer of property to ownership and management by the state for "service and not for profit." What, then, do the "conservative" labor unions really advocate?

There are supposed to be no more "conservative" unions than the railway unions. Their leaders join with other labor leaders, however, in contending that "human rights" should be put above "property rights," the assumption being that "property rights" are not "human rights." In their application of this principle they demand that railway managements, in negotiating with them regarding wages, shall totally disregard whether the wages in effect or proposed will leave a cent of earnings for railway stockholders, or even railway bondholders. But obviously if wages are to be made and kept so high that no return can be earned upon stock, or even bonds, the property represented by the stock and bonds will become valueless to both stockholders and bondholders. It will, by this method, be as completely confiscated as if taken by force in accordance with the doctrine of communism. The reason, then, why communists encourage labor unions in radicalism, and even try to get control of them to promote radicalism, is obvious. Labor union policies can be made, and actually tend to become, as destructive of private property as communist policies. Once property has been made wholly unprofitable to private owners, they will abandon its management, and it will have to be taken over by the state if it is to be continued in operation. Thus the objective of communism—public ownership and state management of property—can be as fully attained by labor union policies destructive of profits as by communist policies.

The European Middle Class Defends Its Property

But in no country where there has been a large middle class has it long tolerated this kind of labor union radicalism after recognizing its tendency and real objective. The great bulk of property in every civilized country belongs to the middle class—that is, to small

business men and farmers—and the middle class rises fast to protect its property when it realizes it is threatened. When labor unions begin to get an exaggerated idea of "labor's" rights and power, they begin resorting to strikes and other forms of force, as well as to political methods, to gain their end of subordinating all property rights to so-called "human rights." The middle class then begins organizing to defend its property by force as well as by political methods. This was the origin of Fascism in Italy. The labor unions seized the manufacturing plants in Milan, Turin and other places in Northern Italy and started trying to operate them for their own account. The small business man and the peasant immediately saw what this meant for them as well as the large property owner; and Fascism originated as a middle class movement to fight radical and confiscatory organized labor with its own weapons. Likewise Nazism in Germany originally was a middle class movement to transfer by whatever means might be necessary the control and use of government from those trying to "socialize" property to those who owned property and intended to retain it. In both Italy and Germany the labor unions and their radical political allies were speedily crushed.

The developments that occurred in Italy and Germany are now being duplicated in France. The "popular front" government of former Premier Blum, a socialist, adopted legislation reducing hours of work, increasing wages, curtailing production and greatly reducing the profits and value of property. The Radical Socialist party, which consists mainly of small business men and peasants, revolted against this general policy when its effects became evident and joined the conservatives, with the result of putting Daladier in power as premier. In his efforts to reverse some of the radical policies already embodied in legislation, Premier Daladier is being resisted by labor unions, socialists and communists with "sit-down" strikes and by other non-political methods. He has been retaliating by exercising the government's power to call railway employees and some other classes of workers into the army where, if they persist in striking, they will be guilty of mutiny and can be court-martialed and shot.

Attacks on the American Middle Class

The outcome probably will be the establishment of some form of Fascism in France. Daladier would hardly be adopting the strong measures he is without knowing he has the backing of the middle class; and in every country where such issues between the middle and working classes have been settled by force, the middle class has triumphed. Furthermore, some years ago, after Great Britain had tried a labor government, the conservative party prevailed in a general election by the votes of the middle class and has been in power ever since.

For more than five years labor unions, socialists, communists and other radicals have been making the same mistake in the United States which has caused them to lose their former power in Italy, Germany and Great Britain, and probably will finally have the same result in France. This is the mistake of assuming that, first, when they are in power politically they can use government to exploit the middle class to almost any extent that they see fit; and, second, that when political methods do not suffice for their purposes they can intimidate the middle class by the threat or use of force. They have secured passage in this country of much legislation intended to increase the income of the laboring class through reduction of profits, regardless of the effect upon the value of property. In other cases, as in that of the railways, they have, with government backing, secured and maintained excessive wages at the cost of both security-owners and the general public. It has been the ostensible purpose of the labor unions and their radical political allies to benefit both farmers and wage-earners at the expense of the rest of the population. It happens, however, that the working population of the country divides into 40 per cent in rural communities and on the farms, 40 per cent in transportation, communication and industry, and 20 per cent consisting of business men, professional men, other white-collar workers and domestic servants. It is, therefore, impossible to transfer enough from the well-to-do to satisfy both farmers and wage-earners.

Farmers Versus Wage-Earners

In consequence, any government policy of redistribution to be really helpful to either farmers or wage-earners, must benefit one of these classes principally at the expense of the other. This is what has been occurring, and is still occurring, under the New Deal. Wage-earners actually employed have been and still are benefiting at the expense of the farmers. This is strikingly illustrated by the fact that while the average hourly wage of railway employees is now 12½ per cent higher than in 1929, the average price of farm products is 37 per cent lower. The farmers are very much the largest and most potent part of the middle class in this country. Most of them joined a large majority of small business men in deserting the New Deal on November 8 and in voting for Republicans and conservative Democrats because they perceived the increasing tendency of those in power to undermine private property. The result was to restore control of Congress to the middle class, which undoubtedly will use its control to turn back the tide of radical legislation which during the last five years has been tending more and more to curtail the profits from private property and thereby destroy the property.

The labor unions will be encouraged by their socialist, communist and other radical allies, if political methods fail, to resort to violent strikes and other forms of force to retain the real or supposed advantages they

have gained during the last five years. In other words, if in this country the middle class asserts itself for the protection of itself and its property, as it is now doing in France, the radicals will encourage labor, as they are now encouraging it in France, to try to accomplish by coercion what it cannot accomplish by other means.

What already has occurred in Europe plainly indicates what would be the result in the United States. The middle class is a relatively larger and more powerful part of the population in this country than perhaps in any country of Europe; and there is no question that if, as in Europe, its property continues to be attacked by both political and coercive methods, it will, as in Europe, adopt both kinds of methods in defending it. The result will be the "class struggle" as it is known in Europe and the complete triumph of the American middle class. Unfortunately, as experience in almost every important country in the world now shows, the rule of any class is almost certain to lead to the rule of a dictator over all classes. The reason is that the rule of one class over other classes can be maintained only with a large army; and a large army is pretty sure to establish the dictatorship of the man who can command it.

"It Can't Happen Here"

Of course, "it can't happen here." Our labor leaders are sure they can follow such radical policies as are being followed by the so-called "conservative" leaders of the railway labor unions and take from the investors of the country as much as they desire without any real resistance or reprisals being made. They regard the middle class as too cowardly to fight and too fat to run. But the experience of Europe supports an exactly opposite view. It supports the expectation that if labor leaders and their radical allies continue to follow in this country the same course that they have followed for five years, with similar effects on property and profits, they will in due course cause such an uprising of the middle class in the United States as has occurred in many other leading countries. And the way the middle class voted at the last national election also strongly supports this view.

How to Make the Federal Barge Line Honest

Suppose in 1936 Congress had said to the officers of the Inland Waterways Corporation substantially this:

"In 1924 you told us that if we would turn over to the Corporation property valued at $11,000,000 and would let you have $5,000,000 in cash, you would so operate that within five years a net income would accrue, failing which it would be the duty of the Secretary of War to inform Congress that the whole project of creating navigable streams to afford the people of the United States cheaper transportation was a colossal failure. Your request was complied with in the matter of transfer of property, and, instead of $5,000,000, you have been given $12,000,000, out of which you purchased securities valued at $4,900,000 and are reporting income from those securities as net income.

"Nevertheless, under any fair bookkeeping system, your operations have not resulted in a net income, and, while we have not heard from the Secretary of War, we now recognize your organization as a colossal failure and are constrained to tell you that after January 1, 1937, you will be definitely on your own. This means that on and after that date you will pay a reasonable charge for the water right-of-way you are using, a right of way that has been created by the government through the canalization of the Mississippi and Warrior rivers with public funds, at great cost; you will pay interest on money advanced to you; you will make a step toward repayment of that money by turning over to the United States Treasury securities you have purchased with the taxpayers' money.

"In addition, you will pay rent for government floating equipment and other property you have been using without cost, including space occupied by your Washington offices; you will set up depreciation charges comparable with such charges made by your water competitors, and you will pay taxes on your tangible property and income, if any; settle your own personal injury claims, pay the salary of your president, and pay for the handling of your mail and telegraph messages.

"In a word, your organization has been operating on borrowed time for seven years, the honeymoon is over, and after the first of the year, if you operate at all, you will operate without a single bounty from the federal government." What would have been the effect, on the destinies of the Federal Barge Lines, of such a pronouncement?

From an address by J. J. Donohue, General Claims Attorney, L. & N. to a Meeting of Brotherhood Leaders.

What Will Earnings Be in 1939?

Experts tell us that steel production next year will be up 70 per cent over this year; and home building and auto output will rise 25 to 30 per cent. This information—with other evidence presented and analyzed in this article—leads us to the opinion that 1939 promises to look a great deal like 1936. The roads ought to earn more than 600 millions of net operating income next year, with their purchases from manufacturers being almost 300 millions more than in 1938.

THE long-term outlook for the railroad industry is involved in politics—hence no predictions which are based purely on the observation of economic trends can be made about it. But, within the framework of the political straightjacket, there do occur ups and downs of railway traffic and earnings, which are due entirely to economic factors—primarily the volume of industrial production.

Political Relief Not Counted Upon

In the present examination as to the immediate prospects for the railroads, we are leaving entirely out of account political factors, whether for good or ill, which may affect the long-term condition of the industry. Instead, we assume that the political framework will remain "as is" for a period of 6 months to a year. (Among the political factors, incidentally, we include the level of wages and the level of rates, since these are largely determined by political coercion, rather than being left to the working out of natural economic forces.)

Because of the promises of the labor organization and the Administration to co-operate with the railroads in a program of constructive legislation, the omission of political possibilities from our examination of probable railway traffic and earnings during the coming year should lead to error, if any, on the side of under-statement, rather than over-statement. Dismissing, then, any estimate of any improvement in railway traffic and earnings which might come from favorable political action—what are traffic and earnings prospects, purely on the basis of observable economic tendencies?

Railroad traffic, as measured by the weekly reports of freight carloadings, declined non-seasonally throughout the early months of the year, up until the middle of May. Since that time, carloadings have been gaining steadily at a rate more rapid than seasonal factors would cause. In the week ended November 19, carloadings totaled 657 thousand, which was 64 per cent of the 1925-29 average for that week—whereas, at the middle of last May, loadings stood at only 53 per cent of the 1925-29 average—indicating that a non-seasonal gain of over 20 per cent has occurred in the past six months. Since June, carloadings have tended to parallel closely those of the last half of 1935. The closeness of this parallel is indicated in Chart I herewith. Freight carloadings in both September and October of the current year were almost identical with those of September and October, 1935. A strong non-seasonal improvement in traffic in the latter months of a year has, practically without exception since carloading statistics have been kept, foretold a continued improvement in traffic during at least the first half of the following year.

A close relationship exists between the movement of freight car loadings and net railway operating income, as is shown in Chart II. This relationship, however, as will be observed, is not parallel. That is, when carloadings rise sharply, net railway operating income increases, relatively, much more rapidly. Conversely, when carloadings decline, the drop in net railway operating income is much greater.

The parallel between the trend of carloadings in recent months with that which occurred in the Fall of 1935 is so close that it seems not unreasonable to assume at least a possibility that the recent behavior of the carloading curve suggests that total carloadings in 1939 may follow the 1936 trend (which the fall figures in 1935 foretold). We shall not let this assumption stand without further examination later on in this article. However, assuming that this probability may be shown to be reasonable, then 1939 should bring total carloadings to approximately 36 million. In 1936, loadings of 36 million resulted in net railway operating income of 667 million dollars.

Net Operating Income May Exceed 600 Million

However, wages and taxes have risen since 1936 and there have been changes in other factors also. Freight loadings in September and October of the present year were very nearly the same as they were in 1935—and net railway operating income in those months (despite the increase in wages and taxes) was only about 9 per cent less than in September and October, 1935. On this basis, therefore, if carloadings in 1939 should equal those of 1936, the railroads might expect to earn net railway operating income in 1939 of approximately 9 per cent less than the 667 millions they actually earned in 1936. In other words, *net railway operating income of about 610 million dollars would appear a reasonable expectation for the coming year.* (In an editorial in the *Railway Age* of two weeks ago, we stated that indications as of that date pointed to net railway operating income for 1939 of 585 million dollars. The present revision upwards to 610 millions arises from the report of carloadings for the November 19 week, indicating that, finally, the 1937 totals are now being exceeded; and from the report of *net railway operating income earned in October—68.6 millions, which was the largest of any month since* March, 1937, *and the largest of any month since the present rate of wages has been in effect.*)

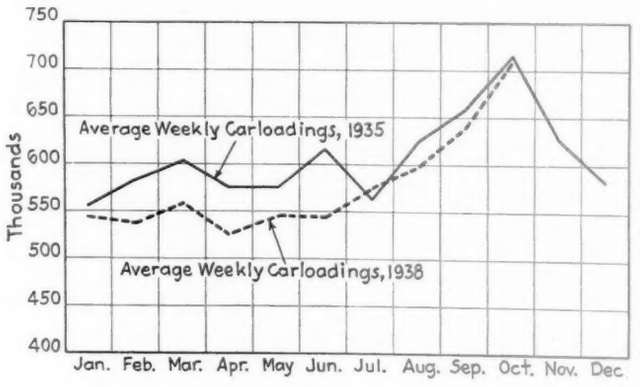
It is true, of course, that there is nothing inevitable in the assumption that a strong upturn in fall carloadings foretells a following year of great traffic improve-

ment. Some people have ascribed the present upturn in general business to government spending and, consequently, predict that the improvement in business will cease after the early months of 1939 when, as seems to be the plan, government spending eases off. There are, however, several factors which these critics overlook. One is that one of the strongest factors in the present business upturn is the increase which has occurred in residential construction—a movement with which government spending has nothing to do, save perhaps to discourage it.

New residential construction in the United States advanced sharply in the last half of 1938, with the result that the total for the year will exceed 1937 by from 10 to 15 per cent, according to the "American Builder." The volume of permits, contracts and contemplated work were at a high level as the construction season drew to a close, indicating an early and vigorous improvement for 1939. "American Builder" predicts that 1939 will be "the best year for residential builders since 1929." The number of new residential units is expected to exceed 1938 by from 25 to 35 per cent. Speculative build-

Chart I (Right) Shows That Carloadings Since July Have Closely Paralleled the Trend They Followed in the Fall of 1935.

Chart II (Below) Demonstrates How Net Railway Operating Income Rose in 1936 After Carloadings Had Behaved in the Last Half of 1935 Just as They Are Now Behaving in the Last Half of 1938.



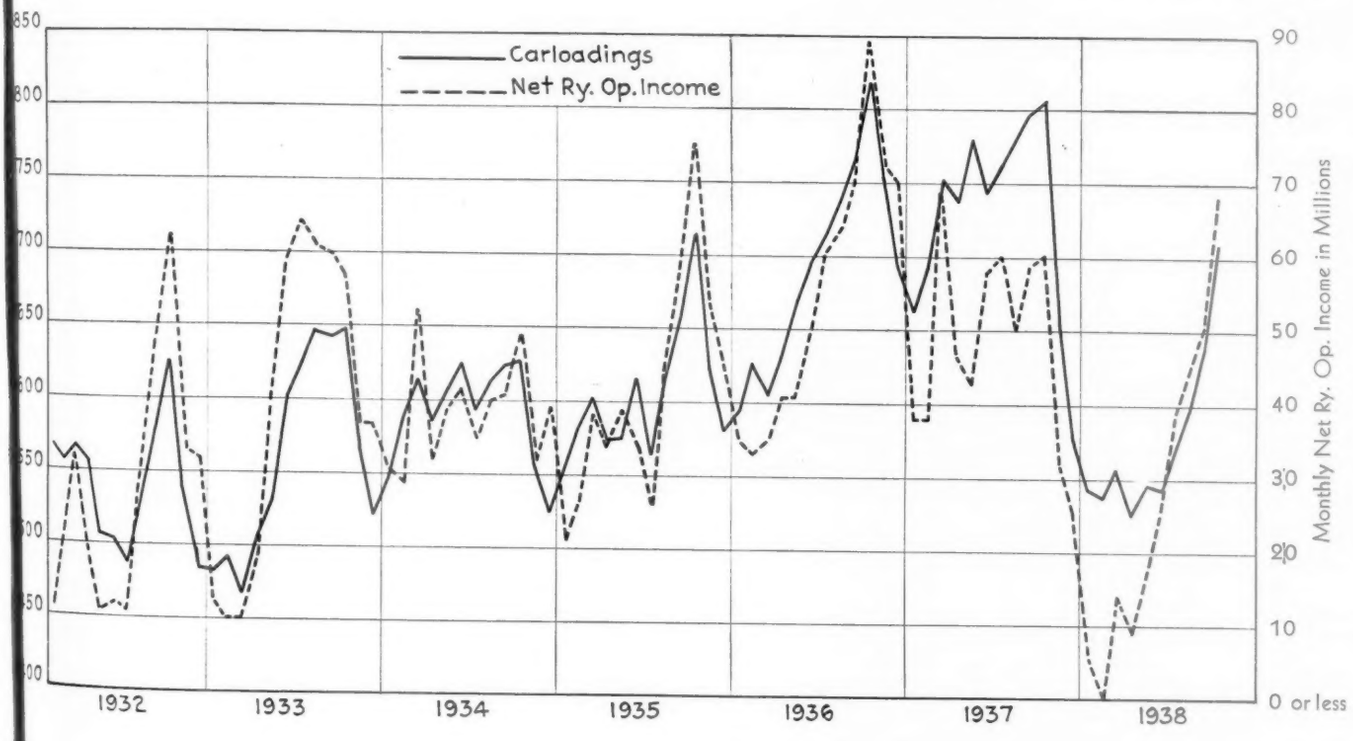
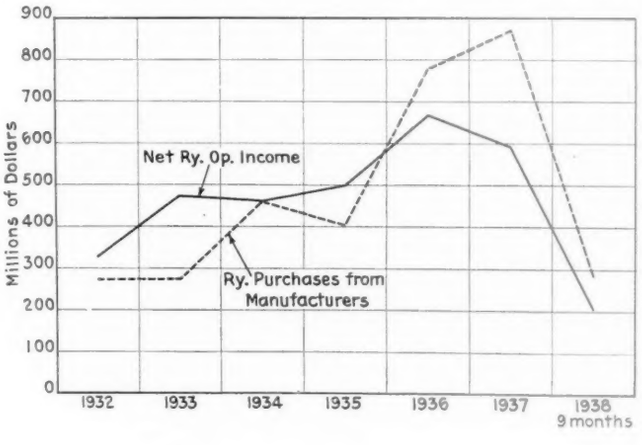


Chart III (Right) Shows How Railway Purchases From Manufacturers Tend to Follow Net Railway Operating Income. If Income in 1938 Nears That of 1936, Railway Purchases Ought to Approximate the 1936 Level Too.



ing of small homes and apartments involving large shipments of plumbing and heating equipment, lumber and building products, is contemplated. Contributing to the private building program will be a sizeable volume of public housing, also involving large shipments of steel and heavy building products.

Industrial Building Rise Foreseen

Sharp increases in commercial and industrial building are also forecast for 1939, offsetting a possible decline in the latter months of the year in public works. F. W. Dodge Corporation estimates construction contracts in 37 Eastern states during 1939 will reach a total of 3.5 billion, compared with 3.2 billion for 1938 and 2.9 billion in 1937. These figures are exclusive of repairs and maintenance work.

Similar conservative optimism characterizes two other industries which afford important indices of general business conditions and railroad traffic, namely, iron and steel and the automotive industry. The editor of "Iron Age" informs us that iron and steel production this year will total about 23 million tons and in 1939 it should reach not less than 40 million tons. The directing editor of "Automotive Industries" estimates that automotive production in 1939 should run from 25 to 30 per cent higher in 1939 than in 1938. Surely it is conservative to predict that railroad traffic may increase 25 to 30 per cent in 1939 over 1938, when such important suppliers of railroad traffic as those cited expect the total volume of their production to increase in these ratios. Moreover, many other traffic-yielding industries foresee equal or greater improvement for the coming year.

Assuming, then, that net railway operating income in 1939 will be somewhat in excess of 600 million dollars, what may be expected of railway purchases from manufacturers? The *Railway Age* has observed that, over a term of years, purchases by the railways from the manufacturing industry tend to parallel the net railway operating income that they earn; and such purchases, over a term of years, exceed operating income slightly. This parallelism is shown graphically in Chart III. From this chart, it is evident that the logical conclusion to draw is that an upward trend of net operating income will result in a roughly parallel and equal rise in railway purchases from the manufacturing industry. Net railway operating income turned upward in May of this year. Purchases did not respond immediately—but by August they had done so, and were greater for that month than they had been at any time in the previous six months.

Buying From Manufacturers May Double

In the first nine months of the current year, purchases by the railroads from the manufacturing industry totaled about 285 millions—as compared with net railway operating income of 273 millions. It appears likely that net operating income for the entire year 1938 may approximate that of 1932, namely, 325 millions, and that railway purchases from the manufacturing industry may exceed that amount somewhat.

In 1939, if net railway income should rise to 610 millions, then purchases by the railways from the manufacturing industry ought at least to equal that amount. That is to say, the *manufacturers should benefit from railroad patronage to the extent of about 285 millions more than they will receive from the railroads this year —an improvement of about 88 per cent.*

The prospective increase in railway buying as their traffic improves does not need to be predicted merely on a basis of past performance. The increase in buying *must* occur, if for no other reason than that the railroads cannot successfully handle the volume of traffic which they handled in 1936 with their present supply of cars and locomotives. For instance, in 1936 there was no net car shortage during the peak of traffic movement in October, but some sporadic shortages did occur here and there. Yet, in October, 1936, the railroads had 70,000 more cars on line than they had in October, 1938. It seems extremely doubtful, therefore, that the railroads could hope successfully to handle the not-unlikely level which traffic may attain in October, 1939, without making substantial additions to their present stock of freight cars.

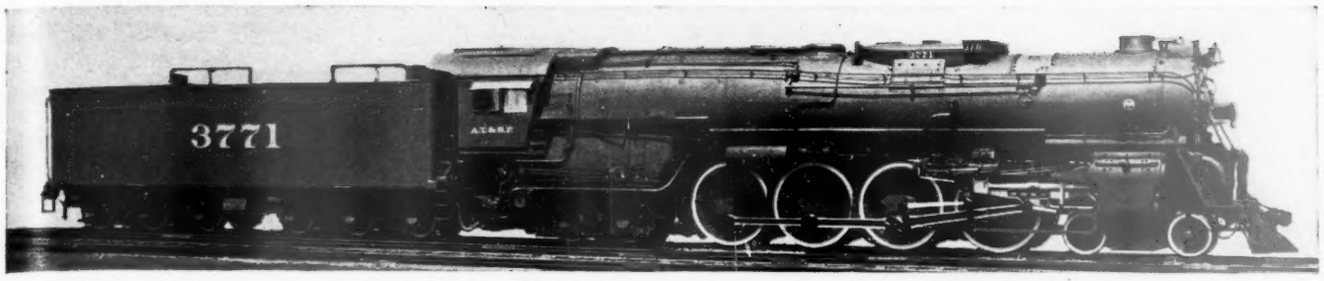
Car Supply Is Getting Low

A detailed analysis of the freight car situation was published in the *Railway Age* of January 1, 1938, page 12, in which it was indicated that the best car utilization which had been achieved, required 1.67 "active" cars per car loaded weekly at the peak of traffic. On October 1, 1939, the maximum number of "active" cars in prospect, unless additions of new cars occur more rapidly in 1939 than they have occurred during the present year, is about 1,425,000—which would be sufficient only, under the very best possible utilization, to care for a peak of traffic of about 850,000 carloads. And, to bring the total of "active" cars to the 1,425,000 total would necessitate a heavy program of freight car repairs, to reduce the present percentage of bad order cars (14 per cent of cars on line) to a bad order percentage of 6. Plainly the railroads are scraping the bottom of the barrel as far as their freight car supply is concerned; and a continued upturn in traffic must inevitably lead to the purchase of a considerable quantity of new freight car equipment.

Much the same situation obtains with respect to locomotives. On October 1 this year the railroads had approximately 1,600 fewer steam locomotives on line than they had in October, 1936. At the rate of purchase and retirement which has been maintained during the present year, in the fall of next year the railroads will have probably 2,000 fewer steam locomotives available to handle their traffic than they did in the fall of 1936. That such a situation would mean an actual locomotive "shortage," one would hesitate to predict. But it is safe to predict that the 1936 volume of traffic, with the locomotive supply unimproved, would certainly call into use a considerable number of museum pieces, which progressive railroad operators would be loath indeed to press into service.

The Chances for Error

There is no such thing as infallible prediction of economic events; and we do not claim that the estimates we have given above are infallible. But, if developments prove that we err, we believe that the chances are more than equal that the error will occur on the conservative side. We say this because the factors which might arise to disturb these estimates are, for the most part, political in nature. And political action at the present time (and probably for the first time in many decades), seems more likely to be of a kind to improve railroad traffic and earnings rather than to diminish them. This whole subject of railway prospects for the coming year will be gone into in more detail (and with more complete statistical evidence) in the forthcoming Annual Statistical and Outlook Number, to be published on January 7.



Santa Fe Passenger Locomotive for Use Over Heavy Mountain Grades—Built by Baldwin

New Passenger and Freight Power for the Santa Fe

High capacity and interchangeability of parts with previous design a feature of latest units

DURING 1938 the Atchison, Topeka & Santa Fe took delivery from the Baldwin Locomotive Works of eleven 4-8-4 type passenger locomotives and ten 2-10-4 type freight locomotives. These 21 locomotives are in addition to six 4-6-4 type units* delivered early this year. These designs are of special interest because of their high capacity and include many parts which are interchangeable.

The eleven 4-8-4 type locomotives operate between La Junta, Colo., and Los Angeles, Calif., 1,237 miles, in fast passenger service and averaged during August and September 17,250 miles per month per locomotive. Five of the 2-10-4 type locomotives are coal-fired and are used in fast freight service between Clovis, N. M., and Belen. The other five 2-10-4 type locomotives, oil-fired, are used in fast freight service between San Bernardino, Calif., and Winslow, Ariz.

The principal characteristics of the three types are shown in the accompanying table. This article describes the 4-8-4 and 2-10-4 types only.

Passenger Locomotives

This group of 11 locomotives was built for service in the mountain country west of La Junta, Colo., where grades of 3½ per cent are encountered. They have a total tractive force of 66,000 lb., weight 286,890 lb. on drivers and have water and oil capacities of 20,000 and 7,000 gal., respectively.

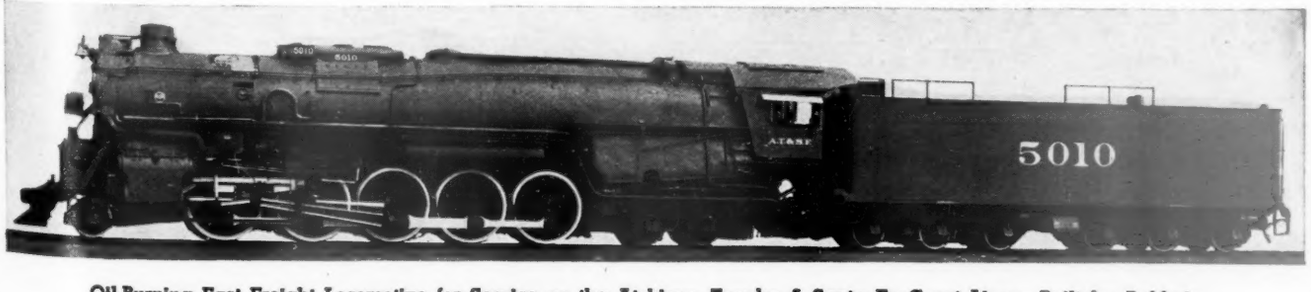
* Described in the *Railway Age* for March 12, 1938, page 450.

The Boilers

The shell-course sheets on all 11 boilers are nickel steel. In 10 of the boilers the inside firebox sheets are of carbon steel; in the other they are nickel steel.

The first course is 88¼ in. inside diameter and the third course is $100\frac{1}{16}$ in. inside diameter. The second course is conical. The plate is ⅞ in. thick in the first course and $\frac{31}{32}$ in. in the second and third courses. The front tube sheet is ⅝ in. and the back tube sheet $\frac{9}{16}$ in. thick. The combustion chamber, crown and side sheets and back firebox sheets are $\frac{13}{32}$ in. thick. The thickness of the roof sheet is $\frac{29}{32}$ in.; the side sheets, $\frac{7}{16}$ in.; the outside throat sheet, $\frac{15}{16}$ in., and the inside throat sheet and the back head, ½ in.

The fireboxes are exceptionally large, being 108 in. wide inside and 144 in. long. The crown and sides are in three pieces with a welded longitudinal seam approximately 25 in. above the mud ring. The combustion chamber is 64 in. long. The back door sheet and the side water legs are vertical for distances of 12 in. and 15 in., respectively, in order to simplify the application of the firebrick lining above the draft pan. Two Thermic syphons are used in the firebox and one in the combustion chamber. The application of flexible stays is extensive, over 1,700 being used in the firebox and



Oil-Burning Fast Freight Locomotive for Service on the Atchison, Topeka & Santa Fe Coast Lines—Built by Baldwin



The Air Compressor and Feedwater Pump of the Passenger Locomotives Are Located in Front of and Below the Smokebox

combustion chamber. Flannery crown stays are used with URW sleeves with the exception of the bolts through the flanges of the syphons. Flannery flexible stays with UW sleeves are used on the throat-sheet and combustion chamber. Flexible bolts with UW sleeves are also used in the firebox breaking zones.

Welding has been utilized in numerous locations on these boilers. The longitudinal seams in the wrapper, crown to side sheets, and in the combustion chamber are welded. The mud-ring corners are welded for a distance of 17 in. at the front and 16½ in. at the back. The water-gage and column bosses, and combustion-chamber diaphragm plate are secured by welding. The tubes and flues are welded to the back tube sheet.

Comparison of Principal Characteristics of New Santa Fe Passenger and Freight Power

Type	4–6–4	4–8–4	2–10–4
Service	Pass.	Pass.	Frt.
Weight on drivers, lb.	213,400	286,890	371,680
Total engine weight, in working order, lb.	412,380	499,600	545,260
Weight of tender, in working order, lb.	396,340	396,340	359,900
Cylinders, diameter and stroke, in.	23½x29½	28x32	30x34
Driving wheels, diam. outside tires, in.	84	80	74
Wheel base, total, ft. and in.	88— 8	98— 2½	{ (5*)98—7¾ { (5)100—3¾
Boiler pressure, lb.	300	300	310
Grate area, sq. ft.	98.5	108	121.5
Evaporative heating surface, sq. ft.	4,770	5,403	6,075
Superheating surface, sq. ft.	2,080	2,366	2,675
Rated tractive force, lb.	49,300	66,000	93,000
Tender water capacity, gal.	20,000	20,000	20,000
Fuel capacity, gal.	7,000	7,000	(5) 7,000
Coal, tons	....	....	(5*) 23

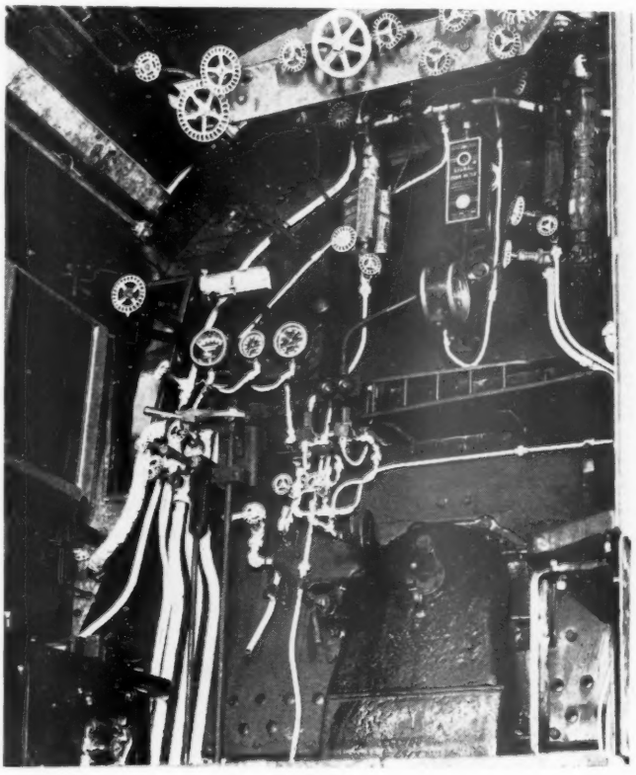
* Coal-burning locomotives.

The boilers are equipped with the Elesco Type E superheater with American multiple throttle. The feedwater heater is a Worthington 6Sa mounted in front of the stack. There is also one injector: a 12,000-gal. Hancock for one boiler and a 13,500-gal. Chicago for ten boilers. Other boiler equipment consists of the Signal Foam-Meter with two automatic electro-magnetic 1-in. blow-off cocks, Crane 2-in. manually operated blow-off cocks, and Coale 3-in. safety valves.

These locomotives are equipped with a Booth burner for the use of oil as fuel but are so designed that they can be changed over to burn coal.

Engine Bed and Running Gear

A one-piece cast-steel bed, furnished by the General Steel Castings Corporation forms the foundation of these locomotives. Cast integral with the bed are the cylinders and back cylinder heads, and brackets and finish pads for air pump, feedwater pump, waist sheet, guides, valve gear and brake cylinders, as well as supports for a stoker conveyor and for grate-shaker cylinders. These latter are part of the provision for possible conversion to coal as fuel.



Left Side of the Back Head of One of the Oil-Burning Locomotives

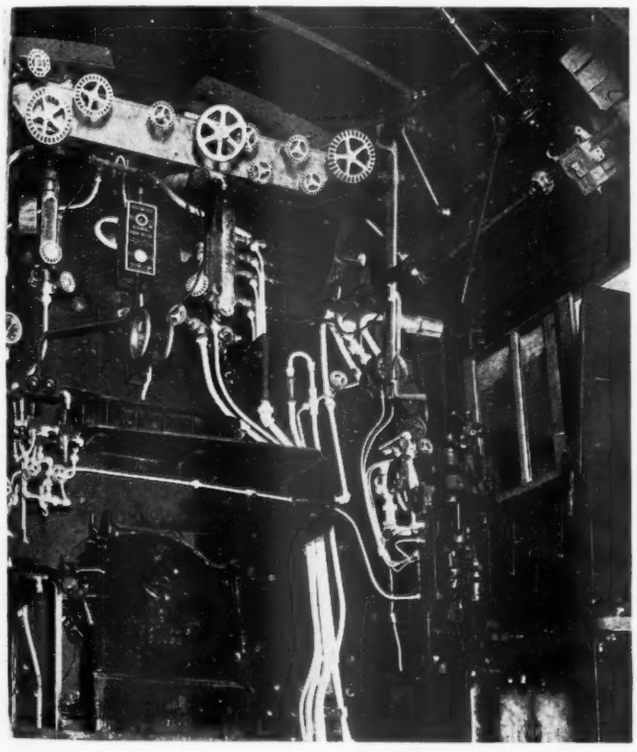
The driving wheels are 80 in. in diameter over the tires and have Baldwin disc-type cast-steel centers. All driving journals run in Timken roller bearings with 12½-in. journals on the front, intermediate and back axles and 14¼-in. on the No. 2, or main axle. The front drivers are equipped with the Franklin lateral motion device.

The front trucks on these locomotives are of the Batz four-wheel design with the General Steel Castings constant resistance device, 37-in. wheels, inside journals 7½ in. in diameter, and Timken roller bearings. These trucks and the Delta four-wheel trailer trucks are inter-

changeable with the trucks used on the recently built 4-6-4 type passenger power. In the article describing these locomotives, there appeared a description of the Batz trucks. The trailer trucks have 40-in. wheels, front and back, with 8-in. journals and Timken bearings.

The piston rods and crank pins are Standard carbon-steel forgings, quenched and tempered, except that the crank pins on the main and No. 3 wheels are heat-treated nickel-chrome steel. The piston head and cylinder packing rings were furnished by the Locomotive Finished Materials Company. T-Z packing is used on the piston rods and valve stems. Laird guides, standard on the Santa Fe system, are used, with high-tensile, cast-steel crossheads made by the Standard Steel Works. The main and side rods are heat-treated chrome-nickel-molybdenum steel. The Tandem main rods are connected to the second and third drivers.

The valve motion is of the Walschaert type with 60



Right Side of the Cab in an Oil-Burning Locomotive

per cent maximum cut-off which drives 15-in. piston valves with a maximum travel of $7\frac{9}{16}$ in. in forward motion and $7\frac{5}{16}$ in. in backward motion. The valve gear is controlled by a Baldwin type C power reverse gear having a stroke of 24 in.

Lubrication and Equipment Details

On each locomotive are three force-feed lubricators, one three-feed and one nine-feed on the right side and one four-feed on the left side. On ten of the locomotives both the three- and the four-feed lubricators are Chicago 40-pint. while on the eleventh locomotive they are Nathan 36-pint. All of the nine-feed lubricators are Nathan 36-pint. These lubricators feed oil to all driving-box and engine-truck-box pedestal faces, to the two main guides, to the cylinders and piston valves and to the hot-water pump.

Other equipment on these locomotives consists of Westinghouse No. 8 ET brakes with one $8\frac{1}{2}$-in. cross-compound compressor; Viloco sanders and operating valves, 14-in. Pyle-National headlights with Pyle-National generators on ten locomotives and the Sunbeam headlight generator on one locomotive; Weston speed recorders; Vapor steam-heat equipment and Ashton steam, steam-heat and air gages.

The coupler at the front of the engine is a National Type E and a Franklin E-2 radial buffer is used between the engine and the tender.

The Tenders

The tenders are of the rectangular type with General Steel Castings Corporation's one-piece cast-steel frames and six-wheel Pullman type tender trucks furnished by the General Steel Castings Corporation. The oil tanks are built as an integral part of the water tanks and have capacities of 7,000 gal. of oil and 20,000 gal. of water, respectively. The tender trucks have Timken bearings, Standard Steel Works wheels and axles and Unit-cylinder clasp brakes with two 12-in. by 10-in. cylinders on each truck. The tender coupler is a National Type E with National yoke and draft gear. Vapor steam heat connectors are used at the rear ends of the tenders.

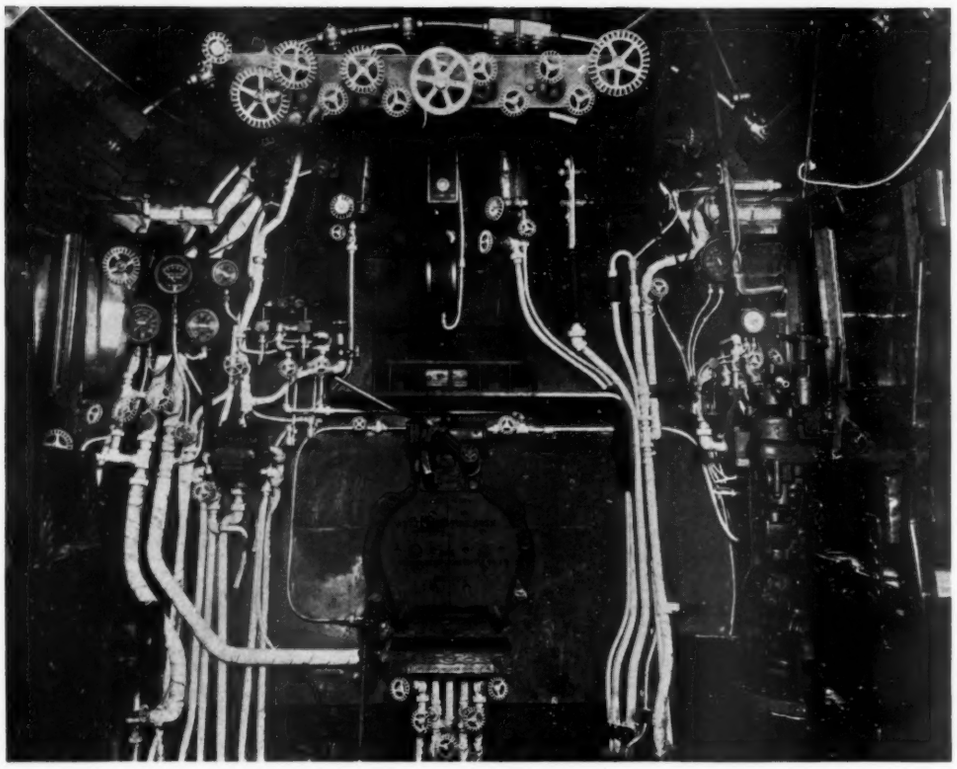
The locomotive and tender may be turned on a 100-ft. turntable.

The Freight Locomotives

The 2-10-4 type locomotives are a development of the Santa Fe locomotive No. 5000 which was built by Baldwin in 1930. No. 5000 had 69-in. wheels and developed 93,000 lb. tractive force, whereas the present group of 11 locomotives have 74-in. drivers which, with the 310-lb. steam pressure, produce the same tractive force without an increase in cylinder dimensions. The boiler diameter at the front course is two inches larger than the 5000 class, the grate area is the same and the heating



Front End of One of the Santa Fe Coal-Burning Fast-Freight Locomotives



Back-Head Arrangement of One of the Coal-Burning Locomotives

surface slightly less due to a reduction in the number of 2¼-in. tubes. The outside diameter of the rear boiler course, in both classes, is 104 in.

The boilers of these locomotives are built in three courses, of which the middle course is conical. They are designed for a working pressure of 310 lb. The barrel and firebox plates were furnished by the Lukens Steel Company, nickel steel being used in the barrel courses, liners, firebox wrapper sheets and back heads. Acid carbon steel is used in the combustion-chamber, crown and sides, and throat and door sheets of the firebox, as well as in both tube sheets. The design of the boilers for both the oil- and the coal-burning locomotives is essentially the same; the oil burners are built with a view to conversion to coal if desired.

The outside diameter of the first course is 94 in. and the third course is 104 in. The combustion chamber is 72 in. long. Except for the use of carbon-steel rivets in the backhead, the rivets used in the construction of the boiler shell are nickel steel. Steel rivets are used in the firebox on one boiler only.

The thickness of the plates is as follows; First course, ⅞ in.; second and third courses, $^{31}/_{32}$ in.; wrapper sheet, $^{29}/_{32}$ in. on top and $^{7}/_{16}$ in. at the sides; throat sheet, $^{15}/_{16}$ in.; back head and inside throat sheet, ½ in.; firebox crown and side sheets, door and combustion chamber sheets, $^{13}/_{32}$ in.; front and back tube sheets, $^{9}/_{16}$ in.

The firebox is 108 in. wide and 162 in. long, with a grate area of 121.5 sq. ft. Three Thermic Syphons are included, two in the firebox and one on the center of the combustion chamber. The Syphons are welded into the firebox sheets. The coal-burning locomotives have Security brick arches with two 3½-in. arch tubes and the oil burners have the staybolts so spaced that the arch tubes may be installed in event of conversion to coal. Booth 3½-in. oil burners are used on the oil-burning locomotives while the other five have Franklin firedoors and grate shakers and Standard Modified Type B stokers. Cast-steel ash and draft pans are used.

On the fireboxes and combustion chambers are extensive applications of Flannery staybolts. Flexible stays with UW sleeves are used in the breaking zones of the firebox, in the combustion chamber and on the back head. The radial crown stays have URW sleeves and KN round nuts except through the syphon flanges. All flexible and expansion stays are hollow bolts for electrical testing.

All 10 locomotives have Elesco Type E superheaters with American multiple throttles. A Worthington 6SA feedwater heater is applied on all 10 locomotives. The

Comparison of Characteristics of Large 2-10-4 Type Locomotives

Railroad	A. T. & S. F.	A. T. & S. F.	B. & L. E.	C. & O.	C. B. & Q.
Builder	Baldwin	Baldwin	Alco	Lima	Baldwin
Road No.	5001–10	5000	621–30	3000–39	6010–27
Date built	1938	1930	1937	1930	1927–29
Weight on drivers, in working order, lb.	371,680	349,910	369,100	373,000	355,510
Total engine weight, in working order, lb.	545,260	502,260	520,000	566,000	511,710
Weight of tender, in working order, lb.	359,900	377,840	377,200	415,000	385,690
Cylinders, diameter and stroke, in.	30x34	30x34	31x32	29x34	31x32
Driving wheels, diam., in.	74	69	64	69	64
Steam pressure, lb.	310	300	250	260	250
Fuel	(5) Coal (5) Oil	Coal	Soft Coal	Soft Coal	Soft Coal
Grate area, sq. ft	121.5	121.5	106.6	121.7	106.5
Firebox heating surface, total, sq. ft.	632	598	562	645	449
Evaporative heating surface, sq. ft.	6,075	6,114	5,900	6,635	5,904
Superheating surface, sq. ft.	2,675	2,741	2,396	3,030	2,487
Tractive force, engine, lb.	93,000	93,000	97,300	91,584	90,000
Tractive force, booster, lb.	....	....	13,100	15,000	....

heater proper is located in front of the stack; the cold-water pump, on the left side at the rear and the hot-water pump, on the smokebox under the left running board. The injector is a Chicago non-lifting, having a capacity of 13,500 gal. per hour. The safety valves are

General Dimensions and Weights of the A. T. & S. F. 4-8-4 and 2-10-4 Type Locomotives

	4–8–4	2–10–4
Railroad	A. T. & S. F.	A. T. & S. F.
Builder	Baldwin	Baldwin
Road numbers	3765—3775	5001—5010
Date Built	1938	June, 1938
Service	Pass.	Frt.
Rated tractive force, engine, lb.	66,000	93,000
Weights in working order, lb.:		
On drivers	286,890	(5*) 371,680 (5) 371,990
On front truck	90,480	(5*) 49,920 (5) 51,120
On trailing truck	122,230	(5*) 123,660 (5) 115,410
Total engine	499,600	(5*) 545,260 (5) 538,520
Tender	396,340	(5*) 359,900 (5) 393,200
Wheel bases, ft and in.:		
Driving	21— 3	26— 2
Engine, total	48—10	50— 2
Engine and tender, total	98— 2½	(5*) 98— 7¾ (5) 100— 3¾
Driving wheels, diameter outside tires, in.	80	74
Cylinders, number, diameter and stroke, in.	2—28x32	2—30x34
Valve gear, type	Walschaert	Walschaert
Valves, piston type, size, in.	15	15
Maximum travel, in.:		
Forward motion	7 9/16	7 5/16
Backward motion	7 5/16	6 15/16
Boiler:		
Steam pressure, lb.	300	310
Diameter, first ring, inside, in.	88¼	92¼
Firebox length, in.	144	162
Firebox width, in.	108	108
Combustion chamber length, in.	64	72
Arch tubes, number and diam., in.	..	(5*) 2— 3½
Thermic syphons, number	3	3
Tubes, number and diameter, in.	52— 2¼	56— 2¼
Flues, number and diameter, in.	220—3½	249— 3½
Length over tube sheets, ft. and in.	21— 0	21— 0
Fuel	Oil	(5) Oil (5*) Coal
Grate area, sq. ft.	108.0	121.5
Heating surfaces, sq. ft.:		
Firebox and comb. chamber	427	464
Arch tubes	...	(5†) 22
Syphons	125	146
Firebox, total	552	632
Tubes and flues	4,851	5,443
Evaporative, total	5,403	6,075
Superheater	2,366	2,675
Comb. evap. and superheat.	7,769	8,750
Tender:		
Style	Rectangular	Rectangular
Water capacity, gal.	20,000	20,000
Fuel capacity, gal.	7,000	(5) 7,000
Coal capacity, tons	....	(5*) 23
Trucks	6-wheel	6-wheel

* Coal-burning locomotives.
† Heating surface of two 3½ in. arch tubes on coal-burning locomotives.

the Coale 3-in. The boilers are equipped with the Signal Foam-Meter with 1-in. automatic blow-off valves on the right and left sides, piped through a muffler on top of the boiler to the ground. Three Crane blow-off cocks are located in the firebox, one each on the right and left sides and one in the throat sheet. The boilers are equipped with Huron washout plugs.

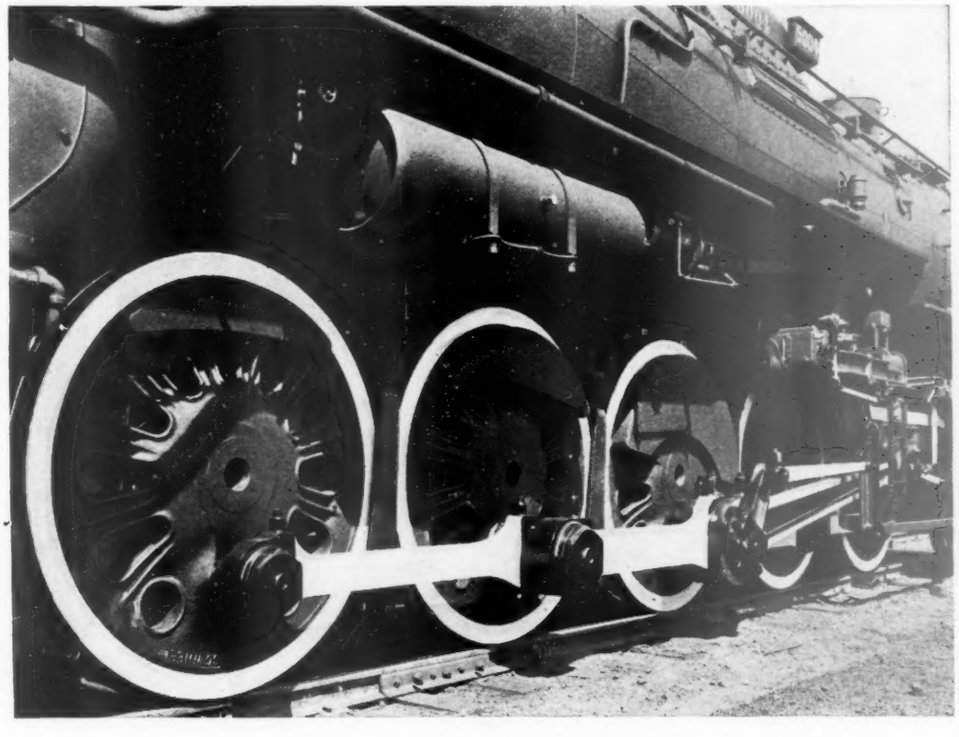
Machinery Details

The cast steel beds under these locomotives were produced by the General Steel Castings Company and are said to be the largest beds yet in service. The overall length of the bed is 6 ft. 8½ in. and the shipping weight, with the pedestal binders in place, is 84,520 lb. The cylinders and back cylinder heads, the air compressor brackets, and the deck-plate and valve-motion supports are cast integral on all 10 beds. Stoker conveyor and grate-shaker cylinder supports are cast as a part of the oil-burner beds as well as of those for the coal-burning locomotives, to provide for conversion to coal as fuel.

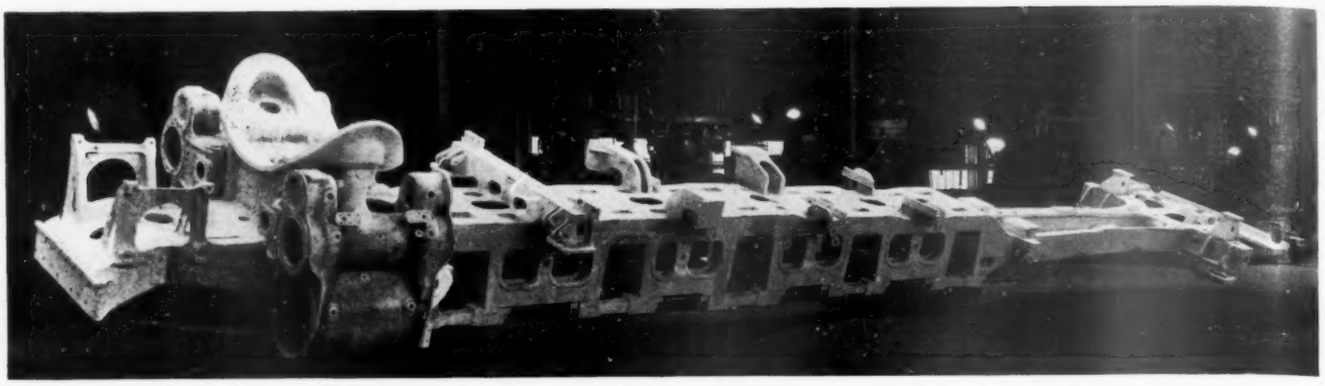
The front engine trucks are the two-wheel outside-bearing type furnished by the General Steel Castings Company. They are designed with a one-piece cast-steel frame with provision for 7⅜ in. swing each side of the center line. The engine-truck wheels are 37 in. in diameter and the axles have 8-in. by 14-in. journals with plain bearings.

The four-wheel trailing trucks are the Delta design with centering device. Both axles have 9-in. by 14-in. journals and 40-in. wheels.

The cylinders are 30 in. bore by 34 in. stroke. Cast-iron cylinder and valve-chamber bushings, heat-treated alloy piston heads, phosphor-bronze cylinder and valve packing rings, carbon-steel piston rods, cast-steel Laird-



Details of the Running Gear of One of the 2-10-4 Type Locomotives



The Engine Bed Casting for the Santa Fe 2-10-4 Type Locomotives

type crossheads with carbon-steel guides and Alco Slid-guide attachments are part of the equipment. The valve gear is Walschaert, controlled by a Baldwin Type C power reverse gear.

Like the 4-8-4 type locomotives, the freight power is equipped with Baldwin disc driving wheels, 74 in. diameter over the tires. The second, fourth and back drivers have 12-in. by 13-in. journals, while the front and main axles have 12-in. by 14-in. and 15-in. by 13-in. journals, respectively. The driving boxes on the Nos. 1, 2 and 5 axles are the crown-bearing type with Franklin grease cellars. On the No. 1 axle the boxes are fitted with the Franklin lateral-motion device. The boxes on the Nos. 3 and 4 axle journals are Locomotive Finished Materials floating-bushing type.

The driving axles are normalized and tempered carbon-steel forgings, hollow bored with 5-in. diameter holes. Heat-treated nickel-chrome steel is used for the crank pins on the third and fourth pairs of drivers, while on the rest of the wheels the pins are heat-treated carbon steel. The main rods are of the Tandem type. Both main and side rods are of carbon steel, normalized and tempered, and floating bushings are used at the back ends of the main rods. A lateral-motion bushing is used at the front end of the side rod at the No. 1 driver.

Brakes and Auxiliary Equipment

The brake equipment on these locomotives consists of the Westinghouse No. 8ET schedule with two 8½-in. cross-compound compressors located on brackets back of the bumper beam. The engine and trailing trucks have no brakes. Air reservoirs, with a capacity of 77,959 cu. in. are located on brackets under the running boards. One 12-in. by 10-in. brake cylinder is provided for each pair of drivers.

A National Type E coupler is used at the front end of the engine and a Franklin A-1 radial buffer between the engine and the tender.

The headlight and generator were furnished by the Pyle-National Company.

Other equipment on these locomotives consists of Ashton steam and air gages, Crane cab and turret valves, Vapor cab heaters and train steam-heat equipment and Graham-White sanders. Flexible metallic connections are used on the air reservoirs, steam-heat connections and at the headlight generator, as well as on the oil and steam connections between the engine and tender.

The Tenders

The tenders for the freight locomotives are of the rectangular type with water capacity of 20,000 gal.

Copper-bearing steel is used in the tanks. On the oil-burning power the fuel capacity is 7,000-gal. and provision is made in the tanks for 30 cu. ft. of flue sand. The coal-burning locomotives have no provision for sand and have coal capacity for 23 tons.

The tenders of the oil-burning locomotives are carried on two General Steel Castings six-wheel Pullman-type trucks—of the same design as used on the 4-6-3 and 4-8-4 passenger power. The coal burners have tender trucks built by the Buckeye Steel Castings Company which are interchangeable with those on the oil-burning locomotives. All 10 locomotives have 37-in. tender wheels and 7-in. by 13-in. plain-bearing journals. Unit cylinder clasp brakes with two 10-in. by 10-in. brake cylinders are part of the equipment on each truck.

The tender frames were cast by the General Steel Castings Corporation and are of the water-bottom type. The frames of the oil burners are arranged for conversion to coal as fuel.

The tender couplers, draft gears, yokes and uncoupling rigging were furnished by the National Malleable and Steel Castings Company.

Partial List of Materials and Equipment on the A. T. & S. F. 4-8-4 Type Passenger Locomotives

Bed castings; engine and trailer trucks	General Steel Castings Corp., Eddystone, Pa.
Driving-wheel centers	The Baldwin Locomotive Works, Philadelphia, Pa.
Trailer-truck wheels; engine truck, trailer and driving axles	Standard Steel Works, Co., Burnham, Pa.
Bearings, engine truck and driving axle journal	The Timken Roller Bearing Company, Canton, Ohio
Driving boxes, front with lateral-motion device	Franklin Railway Supply Co., Inc. New York
Air-brake equipment	Westinghouse Air Brake Co., Wilmerding, Pa.
Engine bolt iron	Ewald Iron Co., Louisville, Ky.
Front bumper	General Steel Castings Corp., Eddystone, Pa.
Radial buffer, E-2	Franklin Railway Supply Co., Inc. New York
Coupler, engine	National Malleable and Steel Castings Co., Cleveland, Ohio
Mechanical lubricators	Nathan Manufacturing Co., New York Ohio Injector Co., Wadsworth, Ohio Swanson Co., Chicago
Flange oiler	The Okadee Company, Chicago
Cylinder cocks	Standard Steel Works, Co., Burnham, Pa.
Piston rods	
Piston-rod and valve-stem packing	T-Z Railway Equipment Co., Chicago
Piston head and rings	Locomotive Finished Material Co., Atchison, Kan.
Main and side-rod forgings	A. Finkl & Sons Co., Chicago
Tandem rods	Franklin Railway Supply Co., Inc. New York
Reverse gear	The Baldwin Locomotive Works, Philadelphia, Pa.
Crossheads	Standard Steel Works, Co., Burnham, Pa.
Boiler and firebox steel	Lukens Steel Co., Coatesville, Pa.
Tubes and flues	National Tube Co., Pittsburgh, Pa.
Staybolt material	Ewald Iron Co., Louisville, Ky.
Staybolts, flexible and expansion	Flannery Bolt Co., Bridgeville, Pa.
Syphons	Locomotive Firebox Co., Chicago
Firepan brick	American Arch Co., Inc., New York

Superheater	The Superheater Company, New York
Throttle valve	American Throttle Co., New York
Smokebox hinges	The Okadee Company, Chicago
Lagging	(1) Johns-Manville Sales Corp., New York (10) United States Gypsum Co., Chicago
Exhaust pipe castings	Locomotive Finished Materials Co., Atchison, Kan.
Feedwater heater	Worthington Pump and Machinery Corp., Harrison, N. J.
Injectors	(1) Locomotive Equipment Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn. (10) Ohio Injector Co., Wadsworth, Ohio
Washout plugs	Huron Mfg. Co., Detroit, Mich.
Cab seats	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Cab heaters	Vapor Car Heating Co., Chicago
Safety valves	Coale Muffler & Safety Valve Co., Baltimore, Md.
Steam, steam-heat and air gages	Ashton Valve Co., Boston, Mass.
Gage holders	Swanson Co., Chicago
Steam-heat regulator valves; pressure-reducing valves	Vapor Car Heating Co., Inc., Chicago
Blow-off cocks	Crane Co., Chicago
Sanders and sander operating valves; bell ringers	Viloco Railway Equipment Co., Chicago
Headlights	Pyle-National Co., Chicago
Generators	(1) Sunbeam Electric Mfg. Co., Evansville, Ind. (10) Pyle-National Co., Chicago
Speed recorder	Weston Electrical Instrument Corp., Newark, N. J.
Signal Foam-Meter	Dearborn Chemical Company, Chicago
Tender:	
Frame and trucks	General Steel Castings Corp., Eddystone, Pa.
Wheels and axles	Standard Steel Works, Co., Burnham, Pa.
Bearings	The Timken Roller Bearing Company, Canton, Ohio
Unit-cylinder clasp brakes	American Steel Foundries, Chicago
Coupler, draft gear and draft yoke	National Malleable and Steel Castings Co., Cleveland, Ohio
Steam-heat connectors	Vapor Car Heating Co., Chicago
Tank steel	Lukens Steel Co., Coatesville, Pa.

Partial List of Materials and Equipment on the Atchison, Topeka & Santa Fe 2-10-4 Type Freight Locomotives

Engine bed; engine and trailer trucks; front bumper	General Steel Castings Corp., Eddystone, Pa.
Engine- and trailer-truck wheels; driving-wheel tires; axles; crank pins	Standard Steel Works Co., Burnham, Pa.
Driving-wheel centers	The Baldwin Locomotive Works, Philadelphia, Pa.
Bearings- engine-truck, driving, trailer	Magnus Metal Div., National Lead Co., New York
Driving boxes, front, with lateral motion device	Franklin Railway Supply Co., Inc., New York
Driving boxes (Nos. 3 and 4 axles)	Locomotive Finished Material Co., Atchison, Kan.
Grease cellars	Franklin Railway Supply Co., Inc., New York
Springs	American Steel Foundries, Chicago
Lubricators, mechanical	Ohio Injector Co., Wadsworth, Ohio
Flange oilers	Swanson Co., Chicago
Coupler (front engine)	National Malleable and Steel Castings Co., Cleveland, Ohio
Air brake equipment; air reservoirs	Westinghouse Air Brake Co., Wilmerding, Pa.
Air hose	Goodyear Tire & Rubber Co., Inc., Akron, Ohio
Foundation brakes	American Brake Co., St. Louis, Mo.
Cylinder cocks	The Okadee Company, Chicago
Pistons	Locomotive Finished Material Co., Atchison, Kan.
Piston rods	Standard Steel Works, Burnham, Pa.
Piston and valve-rod packing	U. S. Metallic Packing Co., Philadelphia, Pa.
Power reverse gear	The Baldwin Locomotive Works, Philadelphia, Pa.
Crossheads	Standard Steel Works Co., Burnham, Pa.
Main rod, tandem extended	Franklin Railway Supply Co., Inc., New York
Floating bushings	Magnus Metal Div., National Lead Co., New York
Slidguide attachment	American Locomotive Co., New York
Boiler sheets; tank steel for cab boards, running boards, copper-bearing steel	Lukens Steel Co., Coatesville, Pa.
Boiler shell and back-head rivets	The Champion Rivet Co., Cleveland, Ohio
Firebox rivets, iron	(9) Burden Iron Co., Troy, N. Y.
Staybolt iron	Ewald Iron Co., Louisville, Ky.
Staybolts, flexible	Flannery Bolt Co., Bridgeville, Pa.
Tubes and flues	(3) The Babcock & Wilcox Tube Co., Beaver Falls, Pa. (2) Globe Steel Tubes Co., Milwaukee, Wis. (5*) Pittsburgh Steel Products Co., Pittsburgh, Pa.
Thermic syphons	Locomotive Firebox Co., Chicago
Brick arch	(5*) American Arch Co., Inc., New York
Firepan brick	(5) American Arch Co., Inc., New York
Arch tubes	(2*) The Babcock & Wilcox Tube Co., Beaver Falls, Pa. (2*) Pittsburgh Steel Products Co., Pittsburgh, Pa. (1*) Globe Steel Tubes Co., Milwaukee, Wis.
Superheaters	The Superheater Company, New York
Throttle	American Throttle Co., New York
Throttle packing	Anchor Packing Co., Philadelphia, Pa.
Lagging	Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Exhaust pipe castings	Locomotive Finished Material Co., Atchison, Kan.
Feedwater heater	Worthington Pump and Machinery Corp., Harrison, N. J.
Injectors	Ohio Injector Co., Wadsworth, Ohio
Blow-off cocks	Crane Co., Chicago
Washout plugs	Huron Mfg. Co., Detroit, Mich.
Stokers	(5*) Standard Stoker Co., Inc., New York
Lubricator for stoker engine	Ohio Injector Co., Wadsworth, Ohio
Draft pan (5) ashpans (5*)	General Steel Castings Corp., Eddystone, Pa.
Firedoors; grate shakers	(5) Franklin Railway Supply Co., Inc., New York
Smokebox hinges	The Okadee Company, Chicago
Cab seats	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Safety valves	Coale Muffler & Safety Valve Co., Baltimore, Md.
Gages, air and steam, steam-heat and air-brake	Ashton Valve Co., Boston, Mass.
Gage holders	Swanson Co., Chicago
Cab and turret valves	Crane Co., Chicago
Train steam heat; cab steam heaters; pressure regulator	Vapor Car Heating Co., Inc., Chicago
Signal Foam-Meter	Dearborn Chemical Company, Chicago
Sanders	Graham-White Sander Corp., Roanoke, Va.
Bell ringer	Viloco Railway Equipment Co., Chicago
Headlight and generator	Pyle-National Co., Chicago
Paint	E. I. duPont de Nemours & Co., Inc., Wilmington, Del.
Oil cut-out cock	(5) Crane Co., Chicago
Radial buffer between engine and tender	Franklin Railway Supply Co., Inc., New York
Drawbars, main and safety	Tennessee iron
Tender:	
Frame	General Steel Castings Corp., Eddystone, Pa.
Trucks	(5) General Steel Castings Corp., Eddystone, Pa. (5*) Buckeye Steel Castings Co., Columbus, Ohio
Wheels	Standard Steel Works Co., Burnham, Pa.
Unit cylinder clasp brake	American Steel Foundries, Chicago
Journal boxes	(5) Symington Gould Corp., Rochester, N. Y.
Journal friction bearings	Magnus Metal Div., National Lead Co., New York
Coupler; draft gear; draft yoke; uncoupling rigging	National Malleable and Steel Castings Co., Cleveland, Ohio
Back-up lamps	Pyle-National Co., Chicago

* Coal-burning locomotives.

* * *

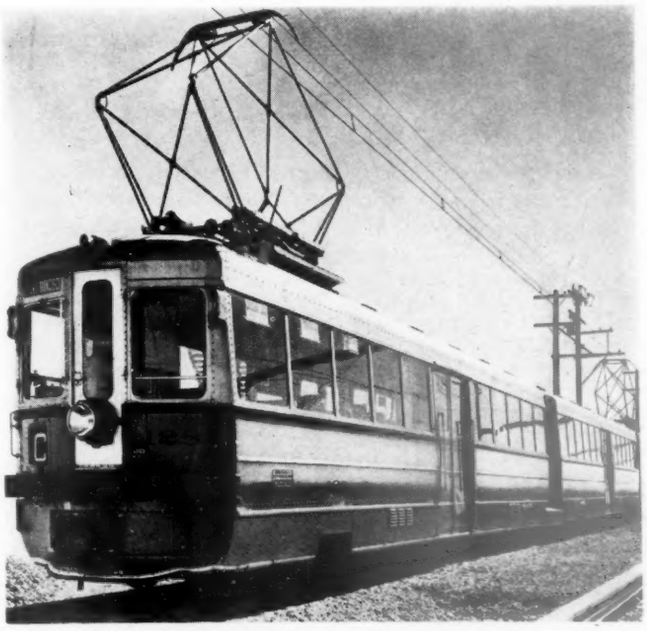


Photo by Bethlehem Steel Co.

New Electric Cars Built for the Key System's Service Over the Oakland (Cal.)-San Francisco Bridge by the Bethlehem Steel Company of Mayari-R Low-Alloy, Corrosion-Resistant Steel



General View of the Car Repair Facilities from the West

Peoria & Pekin Union Builds New Car-Repair Shops

Relocated and modernized facilities at Peoria are housed in pre-fabricated steel buildings

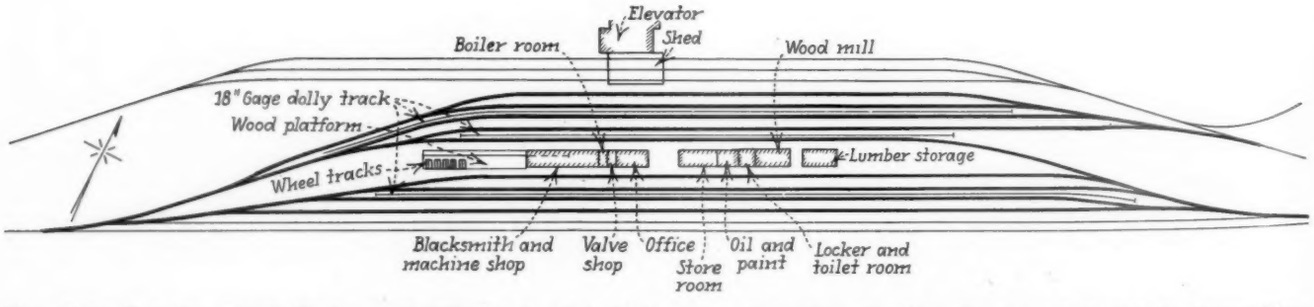
FREIGHT car repair operations of the Peoria & Pekin Union have been placed on a highly efficient and economical basis as a result of the completion of modernized repair facilities in a new location. Among the special features of the new facilities may be mentioned the fact that they are housed in pre-fabricated steel buildings and that they embody the most up-to-date equipment, including machine tools and other accessories and fixtures, that is available.

Old Repair Facilities

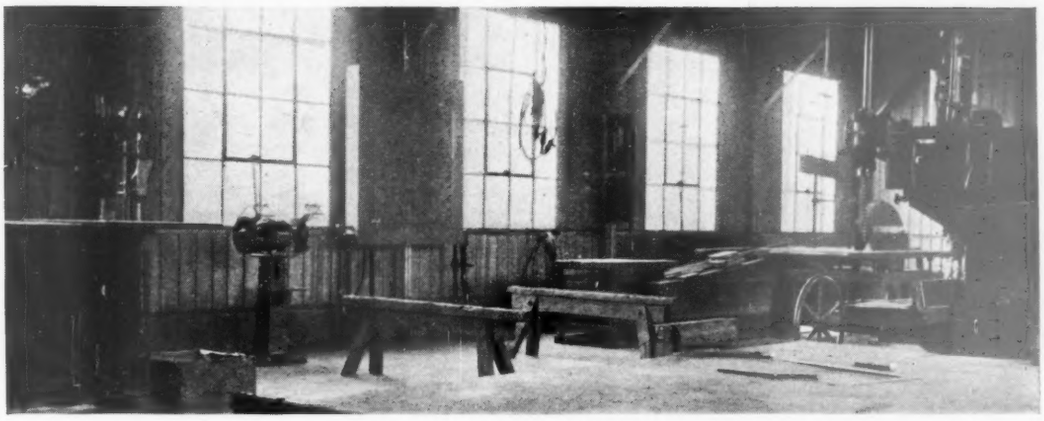
The Peoria & Pekin Union, a terminal property, repairs freight cars at Peoria, Ill. for its tenant lines, of which there are nine. Formerly, this work was carried out in a stub-end layout where the repair facilities were housed in a number of frame buildings. Because these buildings were nearing the end of their service life, and since the equipment they housed was in need of modernization and the stub-end character of the location prevented efficient switching of cars, it was decided to build new facilities in a location where through tracks could be provided.

Accordingly, the new facilities were located at a point on the north side of the company's freight yards, near Center street, where it was possible to connect the car yard lead at each end with the outside track in the freight yard, thus making it possible to switch cars at either end of the repair yard. The new car repair yard, the construction of which involved the placing of 20,000 cu. yd. of embankment, contains nine tracks having a total capacity of 237 cars.

The buildings housing the repair facilities consist of two one-story Blaw-Knox Type B standard buildings, each 30 ft. wide, one being 190 ft. long and the other 210 ft. long. Together, the buildings contain approxi-



Plan of the New Car Repair Yard and Facilities of the P. & P. U. Tracks Comprising the New Yard are Indicated by Heavy Lines



View of a Portion of the Wood Mill at the New Car Repair Shops

mately 12,000 sq. ft. of floor space. They are located in the middle of the repair yard between the fourth and fifth tracks, counting from the south, and are arranged end to end and parallel with the tracks.

The New Shop Buildings

These buildings have structural steel frames, comprising gable-type clear-span riveted roof trusses arranged on 10-ft. centers, and are covered on both the sides and the roofs with copper-bearing galvanized sheet steel. The sheets are furnished in panels 2 ft. wide, each of which contains three reinforcing ribs on 6-in. centers. Adjacent panels are fastened together by means of interlocking joint caps, while the use of special clips for holding both the siding and the roof sheets to the frame obviates the need for rivets or bolts. The buildings are supported on concrete foundations and are amply lighted by steel-sash windows. Ventilation is provided by movable sash in each window and by roof ventilators.

The more westerly of the steel buildings is the larger of the two and contains, proceeding from west to east, a machine shop (70 ft. long), a blacksmith shop (40 ft. long), a pipe room (16 ft. 6 in.), a boiler room (13 ft. 6 in.), a triple valve repair and testing room (15 ft.), and the shop office and record storage space (55 ft.), all these rooms occupying the full width of the building. Included in the office space is a 12-ft. by 17.5-ft. private office for the chief interchange inspector and the general foreman of the car repair yard, which is situated in a corner of the larger space.

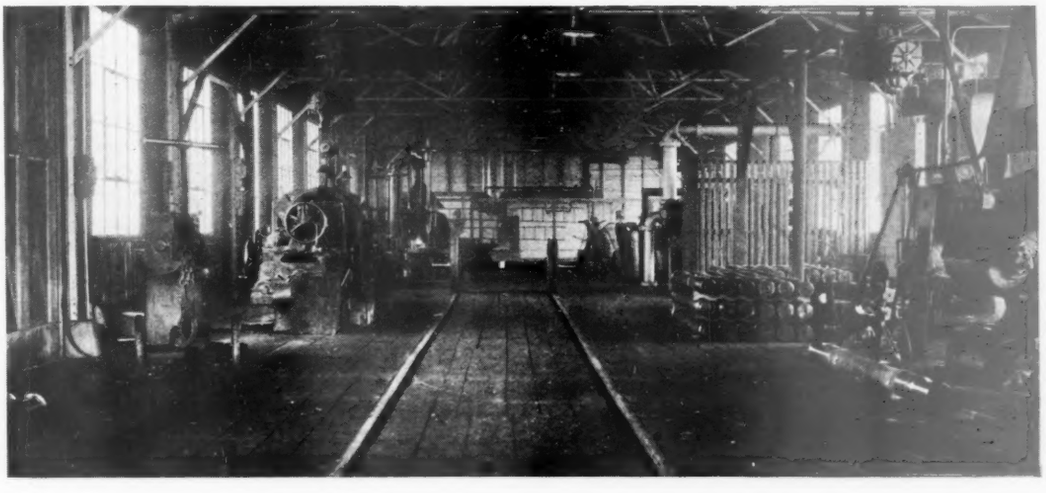
The machine and blacksmith shops and the pipe room are not separated by partitions and hence comprise one room having a total length of 126 ft. 6 in. A woven wire partition separates the pipe room from the boiler room, while frame partitions separate the boiler and valve repair rooms and the latter room from the office space. All portions of this building have concrete floors except the machine shop, which has a timber plank floor, and the blacksmith and pipe rooms which have earth floors. Doors are located at convenient points in the exterior walls along both sides of the machine shop and office building but, except in the woven wire partition separating the pipe and boiler rooms, communicating doors are not provided in the interior partitions.

Shop Equipment

Equipment in the machine shop, blacksmith shop and pipe room includes a wheel-boring mill, a car-axle lathe, a wheel press, a journal lathe, a two-stage automatically-controlled air compressor having a capacity of 500 cu. ft. of free air per minute, a drill press, a brake-beam tester, a three-head bolt threader, a bull-dozer for straightening sheets and arch bars, a number of overhead traveling and stationary hoists, and, of course, a forge. Throughout its length, the machine shop is served by a wheel track which extends through a double-door in the west end of the building to the outside wheel storage space.

The boiler room contains an automatically-controlled fire-tube boiler which supplies steam for heating both of the shop buildings. In both structures, the steam is distributed to individually-controlled unit heaters which are so located as to secure uniform heating of the various rooms. So that it will be readily accessible for maintenance and repair, the condensate return line to the boiler is laid in a shallow trench in the floors of the buildings,

(*Continued on page 814*)



Looking East in the Machine Shop, Showing the Blacksmith Shop, the Pipe Shop and the Boiler Room in the Background

Open Door Policy Rules N. Y. C. Purchasing*

Hospitable relations with trade and constructive attitude on prices stressed in all negotiations — Methods described

By C. C. Warne
Purchasing Agent,
New York Central System, New York

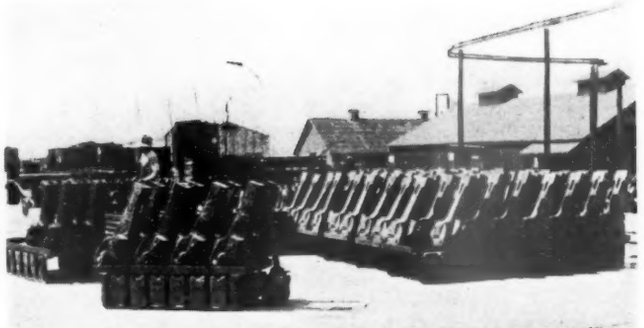


In the Stationery Store at Cleveland

SPENDING for a railroad requires just as much hard work and effort as is put forth by any other department engaged in the railroad business. The supplies are varied in kind and number and for the efficient buying of these different products the purchasing department of the New York Central is separated into divisions, such as coal, dining service, lumber, stationery, etc. All materials, with the exception of such items as coal, rail and cross ties, are covered by requisitions received from the stores department, so that it can be said that the requisitions are the basis of our work.

These requisitions are prepared in accordance with the A. A. R. standard material classification and, to facilitate handling, they are sent to us on a predetermined schedule so that requisitions for the same class of material from all points will arrive on the same day. After being reviewed by the officers in charge, they go to requisition markers who check the descriptions and indicate the sources of supply. The important thing, of course, is the correct marking of the requisitions for this determines the persons or firms who will receive the orders for the materials.

A basic principle of the department is to obtain and maintain open and active competition. We have a list of bidders for all commodities, to whom invitations for proposals are sent. It has taken a number of years to compile this list. It is frequently revised to bring it up-to-date. When a bidder makes application to be added to this list he is carefully investigated to make certain that he has the plant facilities or knowledge and experience which will insure his ability to furnish satisfactory materials.



Car Couplers in Stock at Cincinnati

Quarterly Bids Expedite Orders

For current materials we take bids every three months. When the bids are tabulated they are reviewed by the officer in charge and an accepted bid sheet is filled out showing those with whom orders will be placed during a given period. These tabulations of bids and accepted bid sheets are placed on file in the requisition department and are used as the guide for those who mark the requisitions. By this arrangement we are able to draw orders as soon as the requisitions are received, thus facilitating the quicker delivery of the material. For special materials, bids are taken after the requisitions are received. Bids are also obtained by telephone for materials on which the price changes frequently.

When a shipment has been made the vendor sends

* From an address before the New England Railroad Club.

his invoice direct to us. These invoices are sorted by material classes and are checked as to prices and the quantities ordered and forwarded to the consignee. By separating these invoices by material classifications and making each bill clerk responsible for a few classes, a more skillful and accurate checking of the invoices is insured. As the materials are received the invoices are returned to us through the accounting department for vouchering. We make the vouchers and they are sent to the treasurer for payment. We feel responsible to the seller until he has received payment for his material and consider it part of our job to see that this is done without delay.

The greatest problem that arises from the taking of competitive bids is that of making sure that the proposals received from each bidder are for material of equal quality. The purchasing officer must assure himself that the low bid he accepts is for approved material. The purchasing officer's guides are carefully and fully prepared specifications, or (lacking these), tested materials of approved quality. Guarantees are often required as a protection against loss from defective material.

Committee Fix Standards

On a railroad system such as the New York Central, which is composed of a number of operating districts, it is essential to use material of a common standard. This permits the interchange of materials between districts and enables the general storekeeper of one district to fill the requirements of another, not only in the interest of giving prompt service but with the object of reducing the total inventory. The purchasing department has played an important part in this standardization. A number of committees are engaged in the work of standardization and the purchasing department has a representative on each committee. The New York Central System Engineering Committee for example, is composed of the chief engineers of the various units of the railroad and prepares plans and specifications for the principal materials used in track, bridge and building construction. In the preparation of these plans and specifications, careful consideration is given to commercial standards. The purchasing department has been able to assist in this work because of its knowledge of the sources of supply, from which valuable criticisms and suggestions are obtained.

Another committee is the Equipment Materials Committee, under whose direction specifications are prepared for material used in the repair of locomotives and rolling stock. One committee, the work of which has been largely directed by the purchasing department, is the Lumber committee. During the United States Railroad Administration, it was decided that the inspection of cross ties and lumber should be performed by competent men whose sole time should be spent in this work. It was also decided that this force of inspectors should be attached to the purchasing department. A corps of well qualified men was recruited from the engineering and mechanical departments and trained as capable inspectors and the chief inspectors assisted in the preparation of specifications. These specifications, in addition to fixing the quality, list the acceptable species of lumber that can be used for the same purpose. The inspectors, many of whom work in the producing territories, are of great value to the purchasing department in expediting delivery and keeping the lumber buyer informed as to market conditions.

Specifications by themselves do not insure the receipt of satisfactory material but careful inspection can accomplish this. All important items are examined by a corps of trained inspectors. Of course, it is not economical or desirable to inspect all material and it is for this reason that we welcome and seek the assistance of storekeepers in keeping posted as to the condition of material received. The storekeepers also keep in touch with the using departments and if any complaints are made they communicate them promptly to this department for correction.

Team Work From Stores

Co-ordination of work is accomplished by a committee composed of the head stock clerks of each stores district. They meet frequently to review each item of material that is ordered and make a comparison of the practice on all districts. Where there is a difference in the cost or character of the material, a statement is prepared and sent to the general superintendent of motive power and rolling stock or to the chief engineer, as the class of material directs, and the differences are reconciled. In many cases a change in shop practice is necessary and the most suitable practice for all districts is adopted as standard. This committee has also completely rewritten the material stock books and set up standard descriptions for each item, which greatly facilitates the ordering of material and the prevention of errors in descriptions.

The purchasing department is conscious at all times of the money value of its purchase orders. It compiles statements of the number and cost of specific items and calls these to the attention of the using department. As an example, we were disturbed by the number of safety goggles purchased and an investigation was made, which resulted in a large reduction in the number ordered. Recently a study of twist drills resulted in the reduction in the number of sizes ordered by 60 per cent and the elimination of many costly special drills.

Another illustration of cooperative effort is in the investigation recently made of car cleaners by a committee composed of representatives of the test, mechanical and purchasing departments. Manufacturers were invited to participate. Time studies were made and cost records carefully prepared and when all the tests were completed, the results were carefully compared and a recommendation made which is now being followed.

Prices vs. Quality

It is proper that a purchasing department should be price conscious and this is particularly so when it prepares the material vouchers, and is in constant touch with the treasurer. When funds are low the purchasing officer knows how necessary it is to save every dollar possible. We have learned from experience that there is no economy in buying cheap material. The problem is how to buy the best material cheaply.

A concrete case will illustrate the point. Some years ago we tried to buy black enamel for locomotives to a specification. The specification told the manufacturer what the material was required to do and left it to his skill and ability to make the enamel, using his own formula and ingredients. Bids were invited from a list of responsible suppliers and in a short time the price became so low that no manufacturer could make a satisfactory material for the price quoted. Rejections and dissatisfaction of the using department developed.

A solution for the problem was found by calling the manufacturers into conference and having them make known their costs and name a fair price at which the enamel could be sold. A price was established which was higher than we had received in the competitive bids and the manufacturers were told that awards would be

made to those who made the best enamel at this price. The plan was immediately successful because, in the desire to receive the order, better material was made than the vendors had originally decided to furnish, thus competition for quality instead of price was obtained—to the satisfaction of both the buyer and seller.

The purchases and stores department is called the department of service and supply, and it now occupies a most important place in the activities of the railroad. It has grown hand in hand with progress in manufacturing and research, and acknowledges the great assistance received from the sales representatives of the supply companies. They are courteous and know their product. They keep us informed regarding market conditions and make helpful suggestions. We have what might be called the Open Door policy. A visitor to our reception room will find the doors of the rooms occupied by the officers open—this in itself is an invitation to come in. It is our desire to keep no one waiting and to give anyone who calls a satisfactory interview.

It has been my good fortune to have been actively engaged in purchasing work for the last 25 years. There is one thing that I have observed and that is a definite increase in the spirit of friendliness in all of our contacts. So far has the idea been developed that the new slogan of the Association of American Railroads is Friendliness. I think we should give credit to the sales representatives for teaching us how to carry on business in a friendly way.

It is difficult to conceive a prosperous nation with impoverished railroads. In the year 1934 the gross revenues of the New York Central System totaled $295,084,000. In that year we spent $51,927,000, for materials and supplies. In other words, 17 cents of each dollar of gross revenues were spent for material. In 1937 the gross revenues were $366,226,000 and our purchases were $87,122,000; that is, 24 cents of each dollar of gross revenues were spent for material. During 1937 more than 3,000 individuals and companies, located in all of the states of the Union, received in excess of $1,000 each from this buying.

What better institution could be selected for the wide distribution of funds? Money spent for material goes directly to the producer and a nation is prosperous when the producing class is busy. It has been said that so long as money is spent, it does not make much difference through which channels it flows. I am one who is convinced that the manner in which it is spent has a great effect on our national economic life. Money paid for taxes does not go directly to the producing class but, must first pass through a number of hands. The speed with which money reaches the producing class is the controlling factor and that is why money spent to aid production does the most good. As a mirror reflects light, so we immediately turn back into circulation the revenue we receive.

Peoria & Pekin Union Builds New Car-Repair Shops

(*Continued from page 811*)

which is provided with a movable cover. As an aid in securing efficient heating of the office space, the exterior walls of this space are lined on the interior with ¾-in. insulating board.

The second of the two shop buildings is located directly east of the building described above so that the two structures are on the same longitudinal axis, their adjacent ends being 50 ft. apart. Beginning at the west end, the second building, which is floored with concrete throughout, contains, in the order given, a store room (70 ft. long), an oil and paint room (20 ft.), a tool room (10 ft.), a locker room (30 ft.) and a wood mill (60 ft.). In this building frame partitions separate the locker room from other parts of the structure, while the two partitions separating the tool room from the paint room and the latter room from the store room are of woven wire. All partitions are provided with communicating doors.

The Wood Mill

Power-operated equipment that has been provided in the wool mill includes a band saw, a hollow chisel machine, a rip saw and a cut-off saw, the latter two units being so located that each of them lines up with a double door in the east end of the building, thereby permitting the handling of even the longest pieces by these machines. Other equipment includes an emery wheel and various portable units, such as power drills. All hand tools used in the wood mill are kept in metal cabinets. Lumber storage is provided in a frame shed, 30 ft. by 60 ft. in plan, which is located directly to the east of the building housing the wood mill.

In the locker room fixtures that have been provided for the convenience of employees include, in addition to toilet facilities and steel locker cabinets, two 54-in. wash fountains, a 5-unit shower, and an automatically-operated, gas-fired water heater. Drinking fountains are located at convenient points throughout both buildings.

Equipment provided outside the two metal buildings includes a stiff-leg derrick, which is located near the west end of the machine shop, and two portable "fyr fyter" units, which are kept in small frame sheds at each end of the building housing the store room and the wood mill. In addition, six of the yard tracks are served in pairs by three 18-in. gage dolly tracks, which are 825 ft., 1,175 ft., and 1,200 ft. long, respectively. A tractor-mounted crane is used for transporting heavy items, such as car wheels and axles.

The new car repair facilities of the P. & P. U. were designed and constructed under the direction of E. H. Thornberry, chief engineer. All work, including the erection of the buildings, was done by company forces.

Court Sees $1,361 as Fair Tax for Heavy Trucks

TRUCKS operating in Illinois may be levied upon to cover their full proportionate share of highway construction and maintenance cost, according to a decision handed down by Judge Roy Adair of the United States District Court at Springfield, Ill., on November 15. The decision also upheld the right of the state to limit the weight and size of trucks using Illinois highways. The ruling was handed down in a case, Brashear Freight Lines, Inc., et al. vs. Edward J. Hughes, secretary of the state of Illinois, brought by a group of interstate trucking companies operating between Chicago and St. Louis, Mo., to enjoin the collection of the Illinois registration fees. These companies contended, among other things, that the fees were excessive in amount and constituted an undue burden on interstate commerce. They specifically claimed that the statutes governing fees are unconstitutional because the fees required are

excessive in amount, bear no reasonable relation to the extent of the use of the highways, and discriminate against the heavier vehicles in favor of passenger cars.

The most outstanding phase of the case was the introduction by the Illinois Division of Highways of the Department of Public Works of one of the most complete and comprehensive cost studies ever made to show the portion of the cost of highways according to classes of vehicles. This study was upheld by the court and the action is believed to be the first judicial pronouncement upon the many questions involved in determining the proper elements of highway cost. The major portions of the study are shown in the accompanying table. The outstanding revelation of the study is the small amount of the total annual highway cost now being borne by trucks. A class A truck, 3000-lb. and under, should pay $53.61 a year, according to the study, but is only paying $31.11 in registration and license fees and motor fuel taxes. Class X trucks, six or more wheeled vehicles over 24,000-lb., should pay $1,361.28 a year, but are only paying $364.56. The annual highway cost is given

Illinois Highway Cost Study

Class	Size	Registration	Total annual highway cost	Annual highway cost per vehicle	Registration and license fees and motor fuel taxes paid	Registration and license fees and motor fuel taxes actually paid per vehicle
A	3,000-lb. and under	30,165	$ 1,617,113.74	$ 53.61	$ 938,410.88	$ 31.11
B	3,000 to 8,000-lb.	109,773	12,694,044.98	115.64	5,124,586.25	46.68
C	8,000 to 9,000-lb.	17,968	3,823,343.56	212.79	1,377,117.03	76.64
D	10,000 to 12,000-lb.	15,013	4,466,649.39	297.52	1,549,231.89	103.19
E	12,000 to 14,000-lb.	9,075	3,360,994.18	370.36	1,159,451.19	127.76
F	14,000 to 16,000-lb.	5,785	2,818,018.94	487.13	968,808.97	167.47
G	16,000 to 20,000-lb.	5,018	3,207,640.83	639.23	1,071,773.68	213.59
H	20,000 to 24,000-lb.	5,585	4,691,097.14	839.95	1,499,821.81	268.54
X	Six or more wheel vehicles over 24,000-lb.	4,716	6,419,779.77	1,361.28	1,719,245.36	364.56
Public owned trucks		5,828	1,403,544.79	240.83	343,852.00	59.00
Passenger cars		1,460,676	71,330,734.38	48.83	36,406,670.85	24.92
Dealers vehicles		3,963	387,058.73	97.67	202,937.84	51.21
TOTAL		1,673,565	$116,220,020.43	....	$52,361,907.75	....

at $116,220,020 a year, and all classes of highway vehicles contribute only $52,361,907 toward it in the form of registration and license fees and motor fuel taxes.

In its finding of facts the court said, "The defendants, in support of the statutes assailed and the amount of the fees fixed thereby, have offered in evidence a comprehensive study of the cost of providing highway facilities for motor vehicles of all kinds using Illinois roads. The proper compensable elements composing the annual cost of all public highways are: (a) The aggregate investment in improvements, in rural highways and city streets, amortized annually over their average service lives, (b) interest on the unamortized portion of such investment, (c) a charge on the unamortized portion of such investment representing taxes foregone by the state and its subdivisions through the investment of such funds in public facilities in lieu of taxable property, and (d) a charge for the value of the land occupied by public highways for the privilege of using such property.

"The methods used by the defendants in the preparation of such cost study are fair and just and produce conclusions which are reasonably accurate and furnish ample support for the legislative judgment of the General Assembly in fixing the amount of the fees assailed. The methods used in such study by the defendants in estimating the public investment in local roads and city streets, the service lives of the various elements, the value of the land occupied by such roads, the average weight and mileage of the various classes of vehicles, the rate of interest and taxes properly applicable, the added cost of highways incurred because of the extra weight and width of heavier vehicles and the methods used in calculating other factors in such study are reasonable and just and the conclusions obtained by the application of such methods to the known facts produce final conclusions as to the annual cost of highway facilities which are conservative.

"The highway system owned by the state and its subdivisions is a public utility supplying facilities which constitute an actual monopoly which is subject to intergovernmental regulation and control. The annual cost of operating such utility should be determined in the same manner as for a privately owned public utility. Not less than 50 per cent of the annual cost of city streets, not less than 60 per cent of the road system and not less than 90 per cent of the primary road system should be charged to motor vehicles as a class. The division of the annual highway cost on the foregoing basis between the property owners and the general public on the one hand and motor vehicle owners on the other is reasonable and just and does not result in an undue burden on interstate commerce.

"It is proper to allocate that portion of the annual highway cost properly chargeable to motor vehicles as a class on the basis of the average weight of each vehicle and the average miles it travels on the highway system annually. The license fees, flat weight taxes, mileage weight taxes, and motor fuel tax constitute substantially the entire income of the state from the use of its highway system; such income is derived from the use by vehicles of all rural roads and city streets and it is impossible to segregate the income derived by the state from the use of the separate classes of thoroughfares. Since the reasonableness of the fees may be determined by the comparison of the aggregate income which they produce with the aggregate cost of the facilities furnished to produce it, and since the income produced by specific segments of the highway cannot be identified and must, therefore, be considered collectively, it is reasonable and proper to include the cost of the entire highway system, as distinguished from specific segments thereof, in calculating the amount and determining the reasonableness of fees for highway use.

"The total public investment in said systems, exclusive of the value of right of way, is in excess of $1,587,864,749. Including the value of the right of way, the investment is in excess of $2,739,917,857. The annual cost of providing highway facilities in Illinois, properly chargeable to motor vehicles as a class, is in excess of $116,220,020. During 1936, the total revenue received from all highway vehicles amounted to $18,895,501 from registration and license fees and $33,466,406 from motor fuel taxes, or a total of $52,361,907."

In its conclusions of law, the court upheld various Illinois laws regulating trucks including limitation of lengths and weights.

World's Largest Co-Ordination Plan

THE London, Midland & Scottish operates the world's largest rail-highway co-ordinated system, with a fleet of more than 3,700 tractors and trucks, 3,000 trailers, 7,500 horses and more than 5,000 wagons and carts. This is in addition to a large investment in truck companies not entirely owned by the railroad. While the railway does not operate buses in its own name, it owns large interests in bus companies, both municipal and intercity, and, in London and Northern Ireland, it is associated with passenger transport boards under pooling schemes for bus operation. Its present interest in bus operation represents an investment of 15 million dollars. The railway has 1,500 stations on various parts of its line to and from which rail-highway co-ordinated services are operated. It undertakes to supply a complete door-to-door service, not only on ordinary merchandise freight, but also on complete removals of household goods, factories and farms, including all packing and crating at the point of origin to hanging pictures and placing machinery at the destination. In removing the complete stock of farms from place to place, the railway goes to the length of milking cows enroute when necessary, and is prepared to supply a complete transport service down to the smallest detail. This is illustrated by the fact that the railway, in addition to handling livestock by stock cars and motor trucks, also does a large droverage business, moving the animals from place to place where necessary on their own feet under railway supervision.

The L. M. S. has had rail-highway co-ordination for many years. As early as February, 1899, a primitive motor truck was in use for the delivery of merchandise, and even before then, horses and carts were used extensively in the joint rail-highway service. In 1914, a fleet of 53 buses and 73 motor freight vehicles was in service. Further progress was halted by the War. When the railways now forming the L. M. S. were amalgamated in 1921, co-ordinated service received an additional impetus, and, by 1925, when the amalgamation was completed, the L. M. S. owned a fleet of 1,404 highway freight vehicles. When the rail-highway co-ordination act was passed in 1929, permitting the railways to acquire interests in their highway competitors, a further impetus was given to building up a large fleet of highway units.

In general, this co-ordinated system is operated similarly to some of the rail-highway systems in this country, except that the distances covered are much smaller and the operations are hence more intensive. One difference is in the extensive use of containers of all sorts for handling loads to be transferred between freight cars and motor trucks. These containers vary widely in size, depending upon the purpose for which they are to be used. In addition to the standard containers used for general merchandise, special containers are in use for the transportation of brick and tile, as well as refrigerated and insulated containers for handling frozen and chilled meats, fish and other perishable products. A special container has also been developed for handling uncrated bicycles and motorcycles, and many other special types of container equipment are in use. Besides these containers, the L. M. S. has various types of demountable tank car bodies that are used on both rail cars and highway trucks. These are largely used in the co-ordinated transportation of milk, vinegar, acids, edible oils, ink, beer and lubricants.

Another difference is that the L. M. S. operates a number of so-called "country lorries," which provide motor truck service from the railheads to the farms. Since the L. M. S. is also the largest owner of warehouses in the United Kingdom, manufacturers' stocks of all kinds are shipped by rail to certain stations, stored until they are purchased and then peddled out to the country destinations by these "country lorries." This service is extensively used for agricultural implements, feed, grain and other farm supplies.

New Book . . .

High Iron, A Book of Trains, by Lucius Beebe. 225 pages. 11 in. by 8 in. Bound in cloth. Published by D. Appleton-Century Company, New York and London. Price $5.

When America's Number One sophisticate and man-about-town abandons the theatre and cafe to take upon himself the occupation of writing about his chief hobby—railroading—it is certain that the product will be a new departure in transportation literature. Mr. Beebe has covered many thousands of miles, both in the latest luxury trains and in the cabs of freight locomotives, to drink in the "feel" of the railroading industry and capture the superb photographs which he delivers in this well-balanced volume.

Since the author is a first-rate practising journalist, the text is well above the average book on railroads in point of style. It far surpasses the usual "technical" work in verve and interest and, at the same time, avoids the dead generalizations of popular, "———— Made Easy" books. The section entitled "Power" is an amazing demonstration of the newspaperman's skill in reducing a complicated discussion of locomotive types and performance statistics to lowest common denominators without loss of either accuracy or perspective. Again, his "O Pioneers" chapter—which deals with the Union Pacific-Central Pacific theme—throws a completely fresh light on a familiar subject and will stand out from the crowd of warmed-over rehashes found too frequently in railroad memorabilia. The section on "Speed" is one of the most valuable sections of the book for reference purposes and might well constitute America's answer to the voluminous reports published on train speeds in Great Britain, Germany and France.

For one who lives in the most modern metropolitan surroundings, Mr. Beebe possesses a rare appreciation for, and love of, the past of mechanical things. In this connection, it should be noted that in his newspaper column he insists upon tagging the doubtful term of "flying machines" to air-craft of whatever variety and makes no secret of his contempt for the ubiquitous automobile. At the same time, the latter half of the Nineteenth Century, the halcyon days of steam railroading, is the point where his railroad interest is centered; the actual pioneering days of strap-rail and experimental motive power received scant attention. Thus it is to the days of railroad supremacy, of the first luxurious "parlor cars" and business men's overnight trains, that he gives his best efforts.

The book will be remembered chiefly for its photographs. An accomplished wielder of a "graphlex" camera, and possessed of the infinite patience required to wait in long hours for the right train to get into the right surroundings, the author here presents a superb galley of large, handsomely-finished action "shots." Most of the latter-day photographs are by his own hand; historical illustrations are borrowed from individual roads and private collections. Most spectacular of the latter is a wet plate photograph of a New Haven three-car passenger train taken in 1882, a marvel of detail and clarity and one of the first and best of all railroad action pictures. It has appeared before, but like many of the other old-time illustrations, here receives, for the first time, the quality of paper and printing necessary to bring it out.

A table of photograph titles appears helpfully in the front of the book, while a list of car heralds, devices and insignia of American roads and a glossary of outstanding terms and slang are bound at the rear.

NEWS

Army Pushes Work For Water Lines

Engineers deepen the channels while I. W. C. continues to demonstrate

The United States War Department's Corps of Engineers was "actively engaged" on rivers and harbors and flood control projects during the year ended June 30, 1938, while the government-owned Inland Waterways Corporation was achieving "most satisfactory results" and the Panama Railroad Company was earning a net revenue of $1,347,737, according to the annual report of Secretary of War Harry H. Woodring.

Allotments totaling $252,250,044 for both rivers and harbors work and flood control were received during the fiscal year; expenditures from these allotments and from previous balances totaled $200,704,376. These expenditures, the report goes on, "continue to provide direct and indirect employment for several hundred thousand persons and stimulate industrial activity. The resultant works have promoted American progress and American civilization."

Introducing his discussion of rivers and harbors work the Secretary of War asserts that "the extent to which improved waterways are used and their importance to the economic and commercial life of the nation are vividly reflected in the amount of annual productive tonnage carried thereon, which in the calendar year 1937 amounted to 583,100,000 tons, valued at $20,900,000,000." During the fiscal year channel improvements and maintenance work were carried out on 232 separate projects in coastal, Gulf, Great Lakes, and island harbors, and on intracoastal and inland waterways. "The project for extending nine-ft. navigation in the Mississippi river by the construction of a series of 26 locks and dams between the mouth of the Missouri river and Minneapolis, a distance of 680 miles," the report says, "has been actively prosecuted during the year and is now 81 per cent completed. It is anticipated that construction now in progress on dams at Clinton and Le Claire, Iowa, New Boston, Ill., and Saverton, Clarksville, and Cap Au Gris, Mo., will be completed during the next working season, whereupon this notable improvement will become fully available for commerce and navigation. All locks now contemplated have been completed except auxiliary locks at Hastings and Keokuk, and the locks that will be required to extend the nine-ft. channel above St. Anthony Falls at Minneapolis."

Meanwhile the combined navigation and power dam at Bonneville, Ore., was completed during the year, the ship lock with its "unprecedented lift of 66 ft." having been placed in commission in January. On the Missouri, work has been "actively in progress" on the construction of bank revetment and permeable dikes for stabilization and fixation of the channel to secure a channel suitable for six-ft. navigation to Sioux Falls, 761 miles above the mouth. This project is now "substantially completed" up to St. Joseph, Mo., while above that point the six-ft. channel is "90 per cent completed" to Rulo, Neb., 515 miles above the mouth, and "66 per cent completed" thence to Omaha and Sioux City. The report appraises this Missouri river improvement plan as "an outstanding engineering accomplishment in open river stabilization as applied to rivers of abnormal silt bearing characteristics." At Fort Peck, Mont., the dam is "80 per cent completed," the work having been "vigorously prosecuted." Aside from other claimed benefits, the regulated flow from this dam "has appreciably augmented the channel depths in the river between Sioux City and the mouth."

On the Illinois river the new lock and dam at La Grange, Ill., has been "practically completed," and at Peoria, Ill., the lock has been completed and construction of the dam "is well advanced." The Illinois waterway, "now nearing full completion," the report goes on, "insures a dependable channel nine ft. in depth for navigation throughout its length of 327 miles from the Mississippi river to Lake Michigan at Chicago. Also, an alternate channel of not less than nine ft. in depth connecting Lake Michigan is now available from the waterway above Lockport, via the Calumet-Sag canal, Little Calumet, and Calumet rivers. The response of commercial traffic to the improved navigation

(*Continued on page 825*)

10 Months N. O. I. $273,709,020

Rate of return was 1.24 per cent — October's net $68,565,755

Class I railroads of the United States in the first 10 months of 1938 had a net railway operating income of $273,709,020 which was at the annual rate of return of 1.24 per cent on their property investment, according to the Bureau of Railway Economics of the Association of American Railroads. In the first 10 months of 1937, their net was $531,689,942 or 2.42 per cent, and in the first 10 months of 1930, it was $759,038,636 or 3.43 per cent.

CLASS I RAILROADS—UNITED STATES

	1938	1937	1930
Month of October			
Total operating revenues	$343,440,983	$372,925,813	$477,966,434
Total operating expenses	242,409,081	270,357,354	322,443,081
Taxes	30,944,357	29,354,702	31,791,258
Net railway operating income	68,565,755	60,860,439	110,923,349
Operating ratio—per cent	70.58	72.50	67.46
Rate of return on property investment—per cent	1.99	1.77	3.35
Ten Months Ended October 31			
Total operating revenues	$2,927,472,790	$3,547,567,403	$4,512,318,485
Total operating expenses	2,258,269,819	2,626,414,886	3,340,656,001
Taxes	286,501,543	278,579,050	303,226,866
Net railway operating income	273,709,020	531,689,942	759,038,636
Operating ratio—per cent	77.14	74.03	74.03
Rate of return on property investment—per cent	1.24	2.42	3.43

The October net was $68,565,755 or 1.99 per cent as compared with $60,860,439, or 1.77 per cent in October, 1937, and $110,923,349 or 3.35 per cent return in October, 1930.

Gross operating revenues for the first 10 months of 1938 totaled $2,927,472,790 compared with $3,547,567,403 for the same period in 1937, and $4,512,318,485 for the same period in 1930 a decrease of 17.5 per cent below 1937, and 35.1 per cent below 1930. Operating expenses amounted to $2,258,269,819 compared with $2,626,414,886 for the same period in 1937, and $3,340,656,001 for the same period in 1930—14 per cent below the former, and 32.4 per cent below 1930.

Class I roads in the first 10 months of 1938 accrued $286,501,543 in taxes compared with $278,579,050 in the same period of 1937, and $303,226,866 in the same period of 1930.

For October, tax accruals amounted to $30,944,357, an increase of $1,589,655 or 5.4 per cent above October, 1937.

Thirty-five Class I roads failed to earn expenses and taxes in the first 10 months, of which 13 were in the Eastern district,

(*Continued on page 825*)

"Jim Crow" Case Dismissed by ICC

Majority hold that no "unjust discrimination" now exists on the Rock Island

Following the proposed report of Examiner William A. Disque, the Interstate Commerce Commission, on November 25, dismissed the complaint of Negro Congressman Arthur W. Mitchell of Chicago in which he charged that accommodations for colored passengers traveling in Arkansas over the lines of the Chicago, Rock Island & Pacific are "unjustly discriminatory and unduly prejudicial." The commission found that in view of the fact that the road had recently placed in service a new air-conditioned coach for negro passengers, it could not be accused of discriminating against them. Commissioners Lee, Eastman, Miller, Aitchison, and Porter dissented in the case, with Mr. Eastman writing a separate dissent, Mr. Miller dissenting in part, and Mr. Lee joining Messrs. Aitchison and Porter to register disagreement with the majority.

The case, which was orally argued before the full commission and reviewed in the *Railway Age* for July 9, page 82, arose when Congressman Mitchell was forced to ride in a "Jim Crow" car in the state of Arkansas despite the fact that he held a first class ticket from Chicago, Ill., to Hot Springs, Ark. Congressman Mitchell charged in his complaint that conditions in the car were unsanitary and unfit for occupation and asked the commission to force the railroad to correct this practice by providing equal accommodations for colored passengers. The Congressman also has pending in a Chicago court a civil suit against the Rock Island, the Illinois Central and the Pullman Company in which he asks for damages incurred as a result of his experience.

During the oral argument Congressman Mitchell insisted that the railroad and the Pullman Company should be compelled to provide not only equal coach accommodations, but also equal Pullman accommodations for colored passengers. The commission does not believe that carriers are under any compulsion to provide any particular type of service unless the amount of business justifies it. Thus, it argues that in view of the fact that very few negroes ask for Pullman accommodations, the Rock Island is not required to furnish a separate car for them or reserve one or more compartments especially for colored customers.

In concluding the opinion, the majority go on to say that "It is not for us to enforce the State law. We understand that to be a matter for State authorities. But in deciding the case on the facts presented we must recognize that under the State law defendants must segregate colored passengers. In these circumstances we find that the present colored-passenger coach and the Pullman drawing rooms meet the requirements of the act; and that as there is comparatively little colored traffic and no indication that there is likely to be such demand for dining-car and observation-parlor car accommodations by colored passengers as to warrant the running of any extra cars or the construction of partitions, the discrimination and prejudice is plainly not unjust or undue. Only differences in treatment that are unjust or undue are unlawful and within the power of this commission to condemn, remove, and prevent."

Commissioner Eastman, in his dissenting opinion, said that he did not believe that the Rock Island had been conforming to the rule of giving the negroes equal coach accommodations, but that it was probably conforming to the rule now. "So far as the Pullman accommodations are concerned," he continued, "I am not satisfied that defendants were observing the rule then or that they are observing it now."

The commissioner recognized that the "practical difficulty lies, of course, in the fact that the demand for Pullman accommodations on the part of colored passengers is very small." "So long as this condition exists," he concluded, "I am not prepared to say that it is necessary for a railroad to attempt the partition of observation or dining cars, but I do believe that it is necessary to provide some Pullman space, small though it may be, which will be reserved for the occupancy of colored passengers and which white passengers will not be permitted to occupy, and to provide means by which meals from the dining car may be served in such space."

In his dissenting opinion in which he was joined by Commissioners Aitchison and Porter, Commissioner Lee contended that if a carrier provides certain accommodations for first class white passengers, it is required to provide substantially similar accommodations for colored passengers of the same class. "In my opinion, when the railroad refused complainant Pullman accommodations and required him to ride in the coach provided for colored passengers, it violated the act in failing to furnish him substantially similar accommodations to those furnished white people willing, as he was, to pay therefor," Commissioner Lee concluded.

Commissioner Miller, dissenting in part, agrees with the majority in finding that the present accommodations between Chicago and Hot Springs do not result in unjust discrimination or undue prejudice, but he would have the commission find that the accommodations given to Congressman Mitchell did result in such discrimination and prejudice. He is also of the opinion that when a colored person purchases a first class ticket in a state where segregation is not required to a point in a state where it is required, or through such a state, such dissatisfaction and trouble as was incurred by the complainant may be avoided by the advice of the ticket agent to the effect that through Pullman accommodations should be secured in advance.

Japanese Appoint New N. Y. Agent

The Japanese Government Railways announces the appointment of Tatsuo Shiroki as one of the resident representatives at its New York office, 551 Fifth avenue, succeeding K. Yamanouchi, who is returning to Japan to assume new duties.

Ex Parte 115 Coal Rates to Continue

I. C. C. authorizes extension beyond December 31 expiration date

Continuance "for the indefinite future" of the Ex Parte 115 increases in freight rates and charges on bituminous coal was authorized by the Interstate Commerce Commission in a decision dated November 21 and made public on November 30. Also, because it was premised on the assumption that these bituminous increases would not be continued beyond the present December 31 expiration date, the North Dakota Board of Railroad Commissioners' petition for an order restoring former rates on lignite was denied. It has been estimated that the effect of the decision will be to save for the railroads annual revenues of approximately $19,000,000 on the basis of present traffic.

In a separate opinion, "concurring in part," Commissioner Eastman took out after the railroads for their failure to produce some plan for distributing to more needy roads the increased revenues accruing to the Pocahontas lines. He agrees with the carrier contention that the commission is without power to compel them to enter a pooling arrangement against their will, but he goes on to cite its power "to withhold approval of rate increases, if we find that they will result in unjust and unreasonable rates." And Mr. Eastman is unable to agree that the continuance is justified "in the case of the Pocahontas lines."

"When it comes to horizontal increases in rates," the former co-ordinator observes at another point, "the railroads insist that we deal with them in the aggregate as one national system, and that we disregard the special circumstances of individual carriers. This communistic avenue of approach, however, is for them a one-way street. We can travel up this street in approving rate increases, but they will not travel down it in sharing the results." Commissioner Lee concurred in Mr. Eastman's expression.

Meanwhile the majority had found that "the Pocahontas lines situation has changed," and that "the difficulties inherent therein which led to our limitation of time and our suggestions as to alternative methods of distribution of the excess in amounts accruing to those lines, have been largely mitigated, to say the least." Figures had previously been cited to show that the indicated annual return of the three Pocahontas coal roads in the first nine months of 1938 was 5.77 per cent, and that it would be 7.44 per cent, "based on a projection of the third quarter of 1938." While these percentages are called "high in contrast with the coal-carrying roads as a whole," it is nevertheless pointed out that they "are not far out of line with rates of return which have been judicially approved for public utilities in confiscation cases."

It was the 9.06 per cent return of these Pocahontas lines in 1936 which prompted

the commission in the original Ex Parte 115 decision to observe that it "shocks the conscience" to give such prosperous roads added revenues which were only justified on the basis of the needs of other roads. Thus it fixed the expiration date and suggested some pooling plan. In this connection, in arguing the Ex Parte 123 case, railroad counsel said that "it might be expected that some adjustment would be made among the railroads which would be acceptable to the commission." Yet when they petitioned for the continuance, the carriers denied the commission's power to compel pooling, asserted the Pocahontas lines' unwillingness to forego any of their revenues, and pointed out that other roads were opposed "to the principle of compulsory pooling or compulsory adjustment of divisions except in accordance with the governing statute."

The majority opinion, a 25-page document, reviews the events leading up to the present case, beginning with the emergency charges of 1935. Next it discusses in turn the present financial condition of the railroad industry and the evidence offered by protestants. In its consideration of wage and material costs the decision notes that the outcome of the recent wage case "indictates that the existing wage scales should be regarded as continuing for an indefinite future period." Later comes the observation that "no important reduction in operating expenses is now in prospect;" while "the rise in railroad taxes continues." Tables are set up to show the narrowing spread between revenues and expenses as the report goes on to observe that the bankruptcy showing "would be more unfavorable if owners of the bonds of certain railroads had not voluntarily agreed to make reductions in the interest thereon." Also, the shrinking margin "has continued to be a formidable obstacle to present financial reorganization of the weaker railroads, and has impeded the performance of the tasks imposed upon the courts, the commission, the debtors and the creditors under section 77 of the amended Uniform Bankruptcy Act."

But while it finds the continuance justified "in view of the present level of railroad expenses and taxes," the commission nevertheless entertains misgivings as to the long-range effect on the coal traffic and on the coal industry. Discussing these matters among its "Conclusions" it says in part:

"In our latest report in this proceeding we expressed doubt as to the wisdom of increasing the rates on coal, from the point of view of ultimate results for the railroads. Subsequent developments have not dispelled that doubt. Bituminous coal is by far the most important single source of railroad earning, and in recent years it has produced 15 or 16 per cent of the total operating revenue. From the standpoint of gross revenue, since 1930 it has been of greater revenue importance than passenger traffic. Despite the displacement in use by other fuels the rail tonnage of bituminous coal has not fallen off in greater degree than carload freight as a whole. We doubt whether this condition will continue in the future. The decline in the relative use of bituminous coal as a producer of energy has not been halted, and may be accelerated in the near future by measures now being taken to increase the availability of natural gas and hydroelectric power. The first-named fuel in particular constitutes a serious and immediate threat, since it seems likely to force the discontinuance of a number of important gas plants in cities in the Middle West now consuming coal. In other sections of the country also serious consideration is being given to the dismantling of such plants.

"The general increases in rates on coal which have been made since 1931 with negligible exceptions have all carried an expiration date. The fact that thus they have had nominally a temporary status undoubtedly has played some part in deterring some coal consumers from taking steps of one kind or another which would remove their dependence on rail transportation of bituminous coal. The approval of the present rates for indefinite continuance may serve to hasten such steps. The same results would follow if increases in the production costs of bituminous coal became effective and were recognized as continuing.

"The situation challenges the serious consideration of all who have a stake in the well-being either of railroad transportation, including the employees, the taxing authorities, and the security holders, and the managements of the railroads, or of those who are concerned with or responsible for conditions in the coal industry."

The decision gives the necessary fourth-section relief to make the findings effective as well as sixth-section authority to publish tariffs on 10-days notice; although such authorization "will not run in favor of any applicant carrier which fails so to publish and file schedules in order to continue the present rates after December 31, 1938, without break or interruption thereof."

Commissioner Eastman thinks that everything which was said in the previous report about the lack of justification for increases to the Pocahontas lines is still true. He concedes that adverse business conditions in 1938 have curtailed their earnings severely, but he cites their "very large net earnings over a long period of years," and adds that "railroads and other public-utility companies cannot reasonably expect, when their business falls off because of general industrial depression, to be saved from a temporary drop in earnings by raising their charges."

Further on Mr. Eastman continues from his above-mentioned reference to "communistic avenue" as a "one-way street," to the following observations on pooling:

"The singular thing about this situation is that for many years after the approval of the Act to Regulate Commerce in 1887 the railroads were insistent that the anti-pooling provision of section 5 was the chief error in that act. Time and again it was alleged that if pooling were only permitted under public supervision, the then existing evils in the railroad situation, including financial impoverishment, would largely be eliminated. They repeatedly sought an amendment of the act to that effect, but no change was made until 1920, when, upon our recommendation, we were given authority in the Transportation Act, 1920, to approve pooling agreements under certain conditions, such an approval operating as a bar against all statutory prohibitions or restraints, state or federal. Since this amendment, however, we have been asked to approve such agreements only in a very few instances of limited scope, and in their hour of deepest tribulation the railroads now not only reject this means of relief, but reject it with scorn.

"The mental processes which produce this result are to me somewhat obscure. Refusal to permit increases in the rates of the Pocahontas lines would probably, through force of competition, restrain increases in the coal rates of many of the other railroads. The responsibility for such a result would, however, rest squarely upon those unwilling to join in a lawful and reasonable pooling arrangement. I do not believe that they would long be willing to bear that responsibility."

Federal Bureaucrats Gripe at State Truck Regulations

The U. S. Bureau of Agricultural Economics evidently believes that states do wrong to ask motor trucks from other states to help pay the cost of highway construction and maintenance. This may be deduced from the fact that the Bureau, in a recent issue of "The Agricultural Situation," put forth the claim that three types of state legislation are "hampering interstate commerce in farm products", namely, licensing requirements and tax levies on out-of-state trucks, regulations dealing with weight, size and equipment of out-of-state trucks and port-of-entry laws. The Bureau is to study these "barriers to interstate trade" in cooperation with state agencies and hopes that the study "may point the way to a better program of legislation which will promote free internal trade in the interests of producers, dealers and consumers."

Status of RFC Rail Loans

The monthly financial statement of the Reconstruction Finance Corporation as of October 31, shows disbursements to railroads (including receivers) of $611,425,739 and repayments of $185,379,362.

Acme Order Postponed

The Interstate Commerce Commission has further postponed from December 1 to December 31 the effective date of its order in the case involving the status of Acme Fast Freight, Inc. The commission's decision in this case was reviewed in the *Railway Age* of July 23, page 166.

Club Meetings

The Southern and Southwestern Railway Club will meet on January 19, at 10 a. m., at the Ansley hotel, Atlanta, Ga. A paper entitled "Outside Looking In" will be presented by Hugh K. Christie, Whiting Corporation, Harvey, Ill. A motion

picture entitled "Material Handling Equipment" will also be shown. No meeting will be held in December.

Pettengill to Re-Hang Shingle

Samuel B. Pettengill, former congressman from Indiana, 1930-1938, and author of a bill to repeal the long-and-short-haul provisions of the Fourth Section, has announced his return to practice law with the firm of Farabaugh, Pettengill & Chapleau, and will maintain an office in Washington, D. C., in association with Ezra Brainerd, former Interstate Commerce commissioner.

President's Committee of Six Meets in Washington

President Roosevelt's committee-of-six held a series of meetings at the offices of the Southern in Washington, D. C., this week. George M. Harrison, chairman of the Railway Labor Executives' Association and one of the committee's three labor members, said that the group had made "considerable progress" but it did not expect to have its recommendations ready before January.

Power Exposition Scheduled for December 5-10

The 13th National Exposition of Power & Mechanical Engineering will be held December 5-10 at Grand Central Palace, New York. I. E. Moultrop, consulting engineer, is chairman of the advisory committee, and J. H. Lawrence, engineer for the receiver, Interborough Rapid Transit Company, is vice-chairman. Comfort A. Adams, consulting engineer, Edward G. Budd Manufacturing Company, is a member of the committee.

Reports of Class III Switching and Terminal Companies

The Interstate Commerce Commission, Division 4, has issued an order requiring Class III switching and terminal companies to file their annual reports in accordance with Annual Report Form D (Small Switching and Terminal Companies) which was approved and made part of the order. The order annuls a previous one dated December 6, 1937, In the Matter of Annual Reports from Switching and Terminal Companies of Class III.

The Same Job—But Two Different Ways

Contrasting the safe vs. unsafe ways of doing the same job is the subject of the December poster of the A. A. R.'s Safety Section. Two photographs show the right and wrong way of passing behind the rear end of a freight train on foot. The accompanying circular treats eight additional typical employee activities in a similar manner, describing safe and unsafe methods of "winding 'er up;" handling heavy timber, climbing car ladders, etc.

Surety Bonds of Self-Insurers

The Interstate Commerce Commission, Division 5, has modified regulations governing the filing and approval of surety bonds of motor carriers so as to provide that only corporations may qualify to act as self-insurers. The report, the second supplemental one in No. MC-5, explains that this decision to exclude surety bonds with personal sureties is due to the commission's "lack of facilities for maintaining at long range the close supervision needed to properly protect the public interest on instruments secured by ownership of real estate and personal property vested in individuals." It had previously noted that "up to this time only a small number of this type of surety bond have been submitted to us by motor carriers and brokers."

R. I. Refuses to Emulate Ferdinand the Bull

Trustees of the Rock Island have asked the Interstate Commerce Commission to transfer to the entire commission the proceeding having to do with the lease of the C. R. I. & G. in which Division 4 recently conditioned its favorable decision upon the acceptance by the applicant of provisions designed to protect employees who might lose their jobs as a result of the proposed merger. The petition alleges that the conditions prescribed by Division 4 (see *Railway Age* of November 12, page 717) are "not within the commission's power, in that they relate to a subject-matter over which the commission has no jurisdiction, and are not germane or relevant to the standards which Congress has prescribed to govern the exercise of the commission's power to authorize one carrier to lease the properties of another."

In taking this action the Rock Island is following the counsel of the distinguished former Commissioner, Thomas F. Woodlock, who characterized the action of Division 4 as a "gross usurpation of power."

Railroads Ask I. C. C. to Raise N. Dakota Rates

The railroads serving North Dakota have asked the Interstate Commerce Commission to order the Board of Railroad Commissioners of North Dakota to raise intrastate rates on grain, grain products, seeds, and animals and their products in line with increased charges ordered by the commission in Ex Parte 123. The carriers allege in their petition that the present intrastate rates recently ordered by the North Dakota Board are unjust and discriminatory.

Grade Crossing Accidents Decrease

Fatalities resulting from highway-railroad grade crossing accidents in the first eight months of this year totaled 900, a decrease of 244 compared with the corresponding period last year, according to the Safety Section of the Association of American Railroads.

In the first eight months of this year, 2,408 persons were injured in such accidents, compared with 3,090 in the corresponding period in 1937. Accidents at highway-railroad grade crossings in the eight months' period this year totaled 2,081, a decrease of 652 compared with the first eight months in the preceding year.

In August, there were 99 fatalities resulting from highway-railroad grade crossing accidents, a decrease of 47 compared with August last year. Persons injured totaled 220, compared with 314 one year ago. Highway grade crossing accidents in August, this year, totaled 215 compared with 300 in August, last year.

Anthracite Conference to Be Held at Lehigh University

The Second Annual Anthracite Conference will be held April 28 and 29, 1939, at Packard Memorial Hall, Lehigh University, Bethlehem, Pa. The first conference of this type, held last Spring, aroused considerable interest and it was decided to make the event an annual affair. Professor Howard Eckfeldt of Lehigh is chairman of the committee on arrangements, which includes representatives of the college, Anthracite Industries, Inc., mining and distributing companies and the Mellon Institute of Industrial Research.

Equipment Depreciation Rates

Equipment depreciation rates for seven small railroads have been prescribed by the Interstate Commerce Commission in a new series of sub-orders and modifications of previous sub-orders in No. 15,100, Depreciation Charges of Steam Railroad Companies. Composite percentages derived from the prescribed rates range from 2.06 per cent for the Sheffield & Tionesta to 8.57 for the Fonda, Johnstown & Gloversville. The other five roads covered by the sub-orders are: Ferdinand; Apalachicola Northern; Arcata & Mad River; Donora Southern; and Georgia Southwestern.

Wallace Protests Proposed Express Rate Increase

Secretary of Agriculture Henry A. Wallace, acting under authority granted to him in the 1938 Farm Act to intervene in rate cases before the Interstate Commerce Commission, has submitted a brief protesting against the increased express rates asked for by the Railway Express Agency in its rate case now pending before the commission. Mr. Wallace pointed out that if the commission allows the increased charges on fruits and vegetables, the R. E. A. will lose business because the farmers and commission men will be forced to ship by a cheaper form of transportation, either by truck or by freight.

S. A. L. to Reward Train-Namer

The Seaboard Air Line is offering an award of $500 to the person submitting what is deemed the most appropriate name for the road's new stainless steel, Diesel-powered streamliner which will go into service out of New York about February 1. The contest opens December 1 and closes December 15. Entry blanks may be obtained at any ticket office of the road and all suggested names should be sent to Contest Committee, Seaboard Railway, passenger department, Norfolk, Va., not later than December 15.

The train for which a name is desired is a seven-car coach train carrying a tav-

ern-lounge and observation-lounge car and powered by a 2,000-hp. Diesel-electric locomotive. It is expected to provide the fastest one-night-out schedule ever offered between New York and both coasts of Florida. No extra fare is to be charged.

Joint Passenger Service, Twin Cities to Duluth and Superior

The Interstate Commerce Commission has reopened for further hearing the case (No. 17876) involving joint passenger train service of the Northern Pacific and the Minneapolis, St. Paul & Sault Ste. Marie between Minneapolis, Minn., St. Paul and Duluth to Superior, Wis. The commission's action comes after further consideration of the record and upon consideration of the petition of the Chamber of Commerce of Duluth and the Minneapolis Traffic Association for "reopening, rehearing, reconsideration and modification of the findings."

N. Y. Railroad Club to Hold Banquet December 8

The New York Railroad Club will hold its 66th anniversary dinner on Thursday, December 8, at the Hotel Commodore, New York. C. A. Gill, general manager, Reading, and retiring president of the club, will preside and will introduce the incoming president, G. W. Jones, vice-president, Brooklyn-Manhattan Transit Lines. During the day of the dinner, the New York Central will have on display in Grand Central Terminal a coach in which new fluorescent lighting units have been installed, as described in the *Railway Age* of October 15, page 561.

Shippers Day at Court on Eastern Truck Rates

Interested shippers will present testimony with respect to Ex Parte MC 20—Motor Carrier rates in Middle Atlantic states—when hearings before I. C. C. Examiner Johnston re-open in the Hotel New Yorker, New York, on December 5. The case was to be re-opened on November 29 but was postponed by request of shipper witnesses. Representatives of the Middle Atlantic states Motor Conference have had opportunity to present data for establishing minimum motor truck rates on a higher scale than now exists, while divers independent motor truck operators have testified as to their disapproval of the same. Now it is the shippers' turn.

S. A. L. to Cut Time of Orange Blossoms

The Seaboard Air Line announces that, effective December 15, it will make considerable cuts in the running times of its two Orange Blossom Specials, running between New York and both coasts of Florida. Three hours, 40 min., will be cut from last year's schedule of the east coast "Blossom" from Miami, Fla., to New York, while 2 hours, 50 min., will be slashed from the southbound run. The west coast Orange Blossom Special will make its New York to St. Petersburg run one hour, 20 min., faster than last year and will cut one hour, 10 min., from its northbound schedule. The road also offers this year a new bedroom sleeping car service on this train.

B. & M. Seeks Okay for Boston-New York Air Service

Boston-Maine Airways, a subsidiary of the Boston & Maine, on November 14 filed an application with the Civil Aeronautics Authority for permission to engage in air transportation between Boston, Mass., and New York City. The company would use the East Boston airport for its northern and the North Beach airport for its New York terminus. The latter is near the site of the New York World's Fair of 1939. If permission is granted Boston-Maine Airways will inaugurate the service with three-round trips daily between the two points, for which it plans to augment its present fleet of 10-passenger, Lockheed Electra planes.

Boston-Maine Airways, since 1933, has operated an air transport system between Boston and Montreal, Que., with stops at New Hampshire and Vermont cities, and between Boston and Bangor, Me., with intermediate stops. It also operates an auxiliary line between Bangor and points in Aroostook county in that state. Since its inception the company has operated approximately 15,000,000 passenger-miles.

N. A. M. to Hold Congress

The National Association of Manufacturers will hold its 43rd Congress of American Industry on December 7 to 9 at the Waldorf-Astoria hotel, New York. A lengthy list of important speakers is scheduled to address the Congress, among whom are included Anthony Eden, former British Foreign Secretary; Dr. Leo Wolman, professor of economics, Columbia University; George H. Houston, chairman of the National Association of Manufacturers and former president of the Baldwin Locomotive Works; and Elmer F. Andrews, administrator, Wage-Hour Act. W. L. Batt, president SKF Industries, chairman of the resolutions committee, will present a "platform for industry for 1939." The N. A. M. is located at 14 West 49th street, New York.

Eastern Roads Cut Rates for Holiday Season

The principal New England roads will effect a 20 per cent reduction in round-trip coach fares and 10 per cent in round-trip first-class fares during the Christmas and New Year's holiday season, following action by the New England Passenger Association. The reduced rates will be on sale from December 14 to January 1, inclusive, and may be used going and returning within that period and for return travel for passengers reaching original starting points not later than January 10. These reductions will apply not only to rail lines in New England but as well to all stations in the United States as far west as Chicago and St. Louis, Mo., and north of the Potomac and Ohio rivers. Participating carriers include the Bangor & Aroostook, Boston & Albany, Boston & Maine, Canadian Pacific, Central Vermont, Grand Trunk, Maine Central, New York, New Haven & Hartford and the Rutland. There will be no reduction in coach fares between points within Maine where the regular intrastate coach fare is now two cents per mile, but the reduction will apply to first class fares within that state and on through interstate coach tickets.

The Trunk Line Association has also

* * *



Tallulah Bankhead Christening the Baltimore & Ohio's Modernized Capitol Limited at Washington, D. C., on November 23

announced identical reductions for the roads in its territory, with the sole difference that the effective date for the reduced round-trip fares is December 15, one day later than in New England. Tickets are also good for return to original starting point to January 10.

Express Rates

Several briefs, including one from the Railway Express Agency, have been received by the Interstate Commerce Commission in connection with its Ex Parte 126 investigation of R. E. A.'s application for a revision of the express-rate structure. The R.E.A. brief asserts that its proposal "is a constructive and well adapted plan for revision of the express-rate structure in the light of present day conditions and best calculated to increase the revenues of the Express Company."

In the latter connection the brief had previously pointed out that increased revenues of $10,000,000 a year are anticipated—$5,000,000 from increases on present business and a like amount from business attracted by the proposed revision of the package charges, which under the present set-up have deprived R.E.A. of opportunity to obtain "a fair share of the small package traffic in competition with consolidators, forwarders, truckers, brokers and others." Also, it adds, the present package-rate structure "has led to the existence in New York City of a number of consolidators known as 'express packing companies'."

New Equipment on Order

Class I railroads on November 1, had 5,153 new freight cars on order, according to the Association of American Railroads. On the same date in 1937 there were 18,305 on order, and on November 1, 1936, there were 14,068. New steam locomotives on order on November 1 totaled seven compared with 181 on November 1 last year, and 67 on the same date two years ago; electric and Diesel-electric locomotives on order on November 1 totaled 28 compared with 35 on November 1, 1937, and 10 on November 1, 1936.

Class I roads in the first 10 months of this year installed in service 13,009 new freight cars, compared with 62,911 in the same period in 1937 and 34,113 in the same period in 1936. Also in the first 10 months of 1938 the railroads put in service 160 new steam locomotives and 98 new electric and Diesel-electric locomotives, compared with 305 steam and 52 electrics and Diesel-electrics installed in the same period last year, and 73 steam and 27 electrics and Diesel-electrics in the same period in 1936.

New freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Reports on Motor Applications

The Interstate Commerce Commission, Division 5, has approved conditionally the purchase of two Texas motor truck lines by the Missouri Pacific Freight Transport Company, affiliate of the Missouri Pacific. The lines involved are the Allen Motor Transportation & Terminal's 204-mile route between Laredo and Brownsville, and the Lester Truck Line's 20-mile route between Waco and Mart.

The conditions are the usual ones stipulating that the applicant shall confine its service to places which are stations on the lines of its parent railroad; and that the authorization "shall be subject to such further limitations or restrictions as we may hereafter find it necessary to impose in order to insure that the service shall be auxiliary or supplementary to the train service of the railroad and shall not unduly restrain competition."

Joint Board No. 137, composed of Harry B. Dunlap of Iowa and John C. Highberger of Missouri, has recommended in a proposed report that the commission grant the Burlington Transportation Company, affiliate of the Chicago, Burlington & Quincy, a common-carrier bus certificate for a route between Leon, Iowa, and Albany, Mo. The board would deny the B. T. C. application for a common-carrier trucking certificate for the same route.

N. E. Advisory Board to Hold Special Meeting

The New England Shippers Advisory Board will hold a special meeting on December 7 and 8 at the Parker House, Boston, Mass. During the luncheon session, to be held on December 8, F. J. Wall, vice-president in charge of traffic of the New York, New Haven & Hartford, will speak on "The Railroad Problem", which will be followed by an open forum entitled "Where do Buyers of Transportation Stand on this Important Question?", open to shippers in attendance. One of the chief topics of the morning session on December 8 will be the effects of the recent flood and hurricane on the New England railroads. A review of the obstacles overcome by their respective roads during this crisis will be presented by the following: R. Van Ummersen, freight traffic manager, Boston & Albany; J. W. Smith, vice-president, Boston & Maine; H. A. Carson, general manager, Central Vermont; R. F. Bohman, chief operating officer, Rutland; and C. E. Smith, vice-president, New York, New Haven & Hartford. J. F. Dinand, superintendent, railway mail service, Boston, Mass., will discuss the handling of mail during the period. Reports of the executive, contact, and freight loss and damage prevention committees will be given and business forecasts announced.

Railroads and the Wages and Hours Law

Administrator Elmer F. Andrews of the Wages and Hours Division of the Department of Labor has relieved the railroads from the requirements of certain regulations dealing with records to be kept by employers subject to the Fair Labor Standards Act. The relief in this connection is based upon the fact that the carriers are not subject to the maximum hours provisions of the law.

Meanwhile the Railway Labor Executives' Association has conferred with Mr. Andrews upon the matter of appointing an industry committee for the railroad industry. As labor representatives on such a committee, R. L. E. A. recommended its chairman, George M. Harrison; F. H. Fljozdal, president of the Brotherhood of Maintenance of Way Employees; and George Wright, vice-president of the International Brotherhood of Firemen and Oilers. Under the law this industry committee, which would have management representatives also, will have authority to recommend the establishment of a minimum wage for rail labor up to as high as 40 cents an hour. It has been estimated that if the law's basic 25-cent minimum were adopted approximately 20,000 railway employees would be affected; a 40-cent minimum might affect as many as 150,000.

Wood-Preservers' Association

The American Wood-Preservers' Association will hold its thirty-fifth annual meeting at the Hotel Willard, Washington, D. C., on January 24-26, 1939. In addition to the reports and papers to be presented dealing with the refinement of technical details on wood preservation, the session on Wednesday forenoon, termed a Users' Day Session, will be devoted to the presentation of addresses by officers of railways and other wood-using industries, setting forth the results secured from the use of treated timber. The speakers will include W. H. Bettis, maintenance engineer of the Norfolk & Western, who will discuss the experience of that railway with treated timber, especially ties; and H. M. Church, general supervisor of bridges and buildings of the Chesapeake & Ohio, who will discuss the use of treated timber in buildings and other structures.

Tuesday evening will be devoted to a program on the use of treated timber in government construction, with speakers including F. A. Silcox, chief of the U. S. Forest Service; T. H. MacDonald, chief of the Bureau of Public Roads; John Carmody, administrator of the Rural Electrification Administration; Rear Admiral Ben Moreel, U. S. Navy; and W. E. Reynolds, assistant director of the Procurement Division of the U. S. Treasury Department.

The Canadian Roads in October

Increase of $1,219,285 is shown in Canadian National October net operating revenue of $4,650,861, compared with $3,431,576 in the corresponding month of 1937. Gross showed a gain of $606,796 at $19,935,153, against $19,328,357 in the 1937 period while operating expenses were up $612,489 to $15,284,292, compared with $15,896,781.

A decline of $11,763,831 was shown in net operating revenues for the ten months ended October 31, compared with $13,959,438 in the corresponding period of 1937. Operating revenues declined $15,131,069 to $150,272,587, compared with $165,403,656, while operating expenses were down $3,367,238 to $148,076,980, against $151,444,218.

Net operating revenues of the Canadian Pacific in October totaled $6,046,430, an increase of $1,767,323 over the $4,279,107 reported for the corresponding 1937 period.

Gross for the month also expanded sharply being shown at $16,934,537 as compared with $14,729,165 a year ago, an increase of $2,205,382. Operating expenses

amounted to $10,888,117, a slight increase over the $10,450,058 shown in October, 1937.

Gross for the first ten months totaled $117,280,682 as compared with $119,831,155 a year ago, a decrease of $2,550,473. Operating expenses amounted to $103,903,458 against $102,478,107, leaving net operating revenues for the ten months at $13,377,224 as compared with $17,353,048.

Motor Act Applications of Railway Affiliates

Because the applicants "made no attempt to introduce evidence showing how the transactions proposed would promote the public interest" by enabling the Pennsylvania and the New York Central "to use service by motor vehicle to public advantage in their operations, or otherwise meet the proof requirements of the Motor Carrier Act's section 213, Examiner C. Englehart of the Bureau of Motor Carriers' Section of Finance has recommended in a proposed report that the Interstate Commerce Commission deny applications of the Pennsylvania Greyhound Lines and the Central Greyhound Lines for authority to purchase certain operating rights of the Great Eastern System.

Pennsylvania Greyhound is seeking in the application to acquire the Great Eastern's bus-operating rights on a 132-mile route between Cleveland, Ohio, and Pittsburgh, Pa.; Central wants to buy its rights on a 53-mile route between Toledo, Ohio, and Sandusky. While, as stated above, the examiner would deny the applications on the basis of the present record, he would permit the applicants to request further hearing, if desired, "for the presentation of the required statutory proof in accordance with these recommended findings."

For similar reasons Examiner John S. Higgins would have the commission deny the application of another Pennsylvania affiliate—that of Scott Bros.—for authority to acquire control of the W. G. Corporation, a contract trucker.

Daladier Militarizes Rail Workers to Prevent Strike

Military "mobilization" of the 520,000 workers employed by the 26,470-mile French National Railways was put into effect on November 29 by Premier Edouard Daladier to prevent a general strike called for November 30 by the railroad workers' unit of the French General Confederation of Labor. Scheduled for 4 a.m. to 7 p.m. on Wednesday, the walk-out was arranged to tie-in with a general strike of the entire membership of the federation called by leaders in defiance of the Premier's recent "get-to-work" decrees to speed up France's production and bolster her tottering financial structure.

Premier Daladier's move, based on existing laws authorizing the government to militarize the railroads in emergency, and used successfully to smash a railroad strike in 1910 by Aristide Briand, comprised several important actions. First, an order was directed to each railway employee of military age (practically the entire staff) to report to his regular post for military duty on November 30. Second, the ministries of war and public works assigned all of their available technical staff to take over supervisory posts in the railroad and other public service organizations wherever necessary. Finally, preparations were made for military protection of all trains and railroad property at the effective time of the strike.

The emergency measure was almost 100 per cent effective on the railroad, according to latest news dispatches, and almost all trains departed from their terminals on time.

Freight Car Loading

The freight car loading figure for the week ended November 19, exceeded for the first time this year the figure for the corresponding week in 1937 when the total for the week was 657,477 cars, an increase of 12,550 cars or 1.9 per cent above the corresponding week in 1937, an increase of 20,767 cars or 3.3 per cent above the preceding week, but a decrease of 171,546 cars or 20.7 per cent below the same week in 1930. All commodity classifications except live stock and ore showed increases over the preceding week, while all commodity classifications except grain showed increases over last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loadings

For Week Ended Saturday, November 19			
Districts	1938	1937	1936
Eastern	139,083	140,408	168,857
Allegheny	120,515	118,469	158,676
Pocahontas	48,846	40,696	56,532
Southern	96,499	95,828	113,642
Northwestern ...	83,272	78,747	99,834
Central Western.	116,553	114,599	124,164
Southwestern ...	52,709	56,180	68,067
Total Western Districts	252,534	249,526	292,065
Total All Roads.	657,477	644,927	789,772
Commodities			
Grain and Grain Products	36,122	39,306	36,905
Live Stock	18,057	16,656	19,337
Coal	133,647	128,562	164,231
Coke	7,085	6,553	11,294
Forest Products..	28,536	26,701	36,417
Ore	12,849	12,088	26,429
Merchandise l.c.l.	153,987	159,977	170,022
Miscellaneous ..	267,194	255,084	325,137
November 19 ..	657,477	644,927	789,772
November 12 ..	636,710	685,926	784,980
November 5 ...	673,333	728,765	759,615
October 29	708,840	768,024	814,514
October 22	705,628	770,156	816,242
Cumulative Total, 46 weeks	26,957,363	34,362,101	32,071,522

In Canada.—Loadings for the week ended November 19 totaled 51,171, as against 51,120 cars for the previous week which contained a holiday, and 54,009 for last year, according to the statement of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Nov. 19, 1938	51,171	23,026
Nov. 12, 1938	51,120	22,930
Nov. 5, 1938	53,961	23,153
Nov. 20, 1937	54,009	25,581
Cumulative Totals for Canada:		
Nov. 19, 1938	2,178,146	951,210
Nov. 20, 1937	2,354,187	1,217,838
Nov. 14, 1936	2,193,105	1,072,120

Fuel Efficiency Record

A new high record in fuel efficiency was made by the railroads of the United States in the first nine months of 1938, according to reports received by the Association of American Railroads. This was true both for freight and passenger service.

For each pound of coal consumed in freight service the railroads in the first nine months of 1938 hauled 8⅘ tons of freight and equipment a distance of one mile, the best record in fuel efficiency that has ever been established in the freight service. This was an increase of 5.2 per cent in fuel efficiency compared with 1920, when the average for the entire year was 5⅘ gross tons hauled one mile for each pound of coal used. In the first nine months of 1937 the average was 8Ⅶ tons, and in the same period in 1936 it was 8⅖ tons.

The railroads in the first nine months of 1938 used in passenger service 14.7 pounds of coal in order to haul a passenger train car one mile which also was a new record. In the same period last year 14.9 pounds were used and in the same period in 1936 the average was 15.3 pounds. Fuel efficiency in the passenger service, using the same basis of compilation, was 22 per cent greater in the first nine months of 1938 than in the same period of 1920 when the average was 18.8 per thousand gross ton miles.

"An almost constant increase in fuel efficiency on the railroads of this country has taken place in the past eighteen years," the A. A. R. statement says. "Among the factors that have made this possible have been improvements in scientific methods used to determine which grades of coal are best adapted for locomotives, improvements in the construction of new locomotives, modernization of old locomotives, continued progress in scientific methods of treating boiler water in order to eliminate so far as possible ingredients harmful to locomotives and improved methods of railroad operation."

Truck Shipments in October 1.49 Per Cent Ahead of Last Year

For the second consecutive month this year, the movement of freight by truck exceeded in volume the 1937 tonnage, according to loading figures for October compiled by American Trucking Associations, Inc. The October figures represented an increase of 13.38 per cent over the 1936 monthly average. Thus, the A. T. A. truck loadings index stood at 113.38 compared with 106.84 in September and 107.73 in August.

Comparable reports were received from 171 motor carriers in 37 states who transported an aggregate of 767,701 tons in October, as compared with 756,406 tons in October, 1937 and 707,292 tons in September, 1938. The volume of freight carried by trucks last month represented an increase of 1.49 per cent over the corresponding period last year and 8.54 per cent over September, 1938.

The increase in tonnage, the A. T. A. statement says, "was accomplished despite the fact that drivers' strikes in New York, Omaha, Neb., Kansas City, Mo., and other midwestern cities interfered with normal business. On the other hand, heavy hauling in the automobile field and restocking of supplies in the hurricane districts of New England contributed toward increasing the volume of freight moved by truck."

October gains were heaviest in the automobile and iron and steel classifications. The former showed an increase of 138.23 per cent over September; but the October volume was 18.18 per cent under the corresponding month last year. Iron and steel hauling increased 27.14 per cent over September, but was 7.17 per cent behind the volume of a year ago. In the general merchandise class, which accounted for about 80 per cent of the total volume of freight handled by truck, the October figure was 7.51 per cent over September and 2.72 per cent over October, 1937. Transportation of petroleum products showed a decline, "believed to be seasonal;" the October volume dropped 5.98 per cent under September and 3.54 per cent under October, 1937.

K. C. S. Co-ordination Plan Approved

The Interstate Commerce Commission, Division 5, has granted, with certain exceptions and conditions, the application of the Kansas City Southern Transport Company, affiliate of the Kansas City Southern, for authority to operate as a common-carrier trucker over specified routes between points in Missouri, Kansas, Arkansas, Oklahoma, Louisiana and Texas, which are stations on the lines of the Kansas City Southern and the Arkansas Western. The same decision denies the Transport Company's application for a "grandfather-clause" certificate on a route between Shreveport, La., and Lake Charles, holding that the applicant's tie-up with a claimant of "grandfather-clause" rights was not sufficient to make it a successor to such claimant.

In connection with the general application, the commission was persuaded that the co-ordinated set-up which the Transport Company proposed to develop in connection with its parent railway would be a "useful public service." It noted the offer of protesting motor carriers to discuss joint arrangements, but found itself without jurisdiction to compel co-ordinated service between rail and motor carriers. Furthermore such voluntary co-ordination "is not here practicable."

The conditions which the commission attached to the granting of the application are as follows:

(1) The service to be performed by applicant shall be limited to service, which is auxiliary to, or supplemental of, rail service of the Kansas City Southern Railway Company or the Arkansas Western Railway, hereinafter called the railways;
(2) Applicant shall not serve, or interchange traffic at, any point not a station on a rail line of the railways;
(3) Shipments transported by applicant shall be limited to those which it receives from or delivers to either one of the railways under a through bill of lading covering, in addition to movement by applicant, a prior or subsequent movement by rail.
(4) All contractual arrangements between applicant and the railways shall be reported to us and shall be subject to revision, if and as we find it to be necessary in order that such arrangements shall be fair and equitable to the parties;
(5) Such further specific conditions as we, in the future may find it necessary to impose in order to restrict applicant's operation to service, which is auxiliary to, or supplemental of, rail service.

Commissioner Eastman wrote a separate concurring opinion, objecting to the third of the foregoing conditions because of his fear that such a limitation "may stand in the way of the development of maximum efficiency in the co-ordinated service." He explained that there may be as much need for the substitution of truck service for way-freight train service where there is no prior or subsequent haul by rail as where there is such a haul. The dissent of Commissioner Rogers was noted.

Reduced Fares for N. Y. World's Fair Set Up

Railroad passengers coming to the New York World's Fair of 1939 will enjoy substantial reductions in passenger fares for all classes of travel, according to a special schedule of rates recently set up by the Trunk Line Association and the Central Passenger Association, which rates apply to all lines in the respective territories. The other passenger associations in the country and Canada have not yet formally adopted special World's Fair rates but are expected to follow the lead of the Trunk Line and Central Passenger Associations.

The new fare offerings, it is believed, set a new precedent in the pricing of passenger travel by applying the distance principle which is inherent in country-wide freight tariffs. In short, diminishing percentages of the established mileage rate will be charged as the distance traveled increases; the farther a visitor comes to the fair, the less will be the rate per mile charged him. Another innovation to be tried out for the first time during the World's Fair period is a reduction of approximately 10 per cent in transportation rate per mile to those who elect to occupy upper berths in sleeping cars.

The most substantial reductions will apply to round trips to and from points more than 250 miles from New York. Special-rate, first-class, 30-day round-trip tickets, to be sold between June 1 and September 30, and good in upper berths, will range from 2.69 cents per mile for distances from 251 to 300 miles, down to 2.43 cents for distances over 950 miles. The rate for first class tickets valid in lower berths and parlor cars will range from 2.98 cents per mile in each direction, for distances between 251 and 300 miles from New York, down to 2.70 cents for distances over 950 miles. These rates will apply going and returning by either the same route or by diverse routes and stopovers will be allowed on all stations of going or returning trips, or both. For distances within 250 miles of the metropolis, the regular three-cents-per-mile rate will apply.

Round-trip coach tickets, to apply from April 28 to October 28, will be sold at a rate of 2.25 cents per mile in each direction, for distances under 251 miles from New York, and ranging to as low as 1.5 cents per mile for distances over 950 miles. As is the case with first-class tickets, holders may return by diverse routes and stopovers will be allowed at all stations in either direction. Applying only from stations in Trunk Line territory, week-end round-trip coach tickets will be established on a basis ranging from 1.5 cents per mile, for distances between 50 and 150 miles from New York, to 1 cent per mile for distances over 600 miles. These tickets will be good only on one specified Friday night or Saturday morning train en route to the fair and return on a specified train prior to 3 a.m. on the Monday following date of sale; no stopovers are allowed. One-day round-trip coach excursions from stations in Trunk Line territory will be sold at rates ranging from 1.25 cents per mile for distances between 50 and 100 miles from New York to 1 cent for distances over 250 miles.

Lines in Central Passenger Association territory will afford special round-trip fares for parties of 25 or more traveling together by coach based on 85 per cent of the 30-day round-trip coach rates, tickets to be good for 15 days.

In illustration of these reductions, it is pointed out that while the regular two-way coach rate between Chicago and New York ranges from $45.38 to $41.38, according to route, the World's Fair 30-day round-trip rate for the same trip will range from $28.20 to $25.75, according to route; in the same way, the present round-trip coach fare between St. Louis, Mo., and New York ranges from $52.88 to $47.88, while the World's Fair special rate for the same class of travel will range from $31.75 to $28.75. Probably one of the most important fare reductions to visitors and New Yorkers alike is the contemplated straight 10-cent fare contemplated by the Long Island to apply between Pennsylvania station, Manhattan, and the World's Fair station, as was announced in last week's *Railway Age*. The present rate for this trip is 24 cents in each direction.

"Mr. Average Citizen" Will Solve Rail Problem, Says Hood

"Mr. Average Citizen, acting collectively, must and will" solve the railroad problem just as he, in the end, makes "all other basic decisions with which we are confronted," according to J. M. Hood, president of the American Short Line Railroad Association, who spoke on November 30 at a "Railroad Night" meeting of the Lions Club of Cumberland, Md. With the foregoing in mind, Mr. Hood devoted a portion of his address to a listing of various plans which have been proposed by such organizations as his own, the Association of American Railroads, the Railway Business Association, the Transportation Conference of 1938, and the Transportation Association of America.

The plan of the latter, "whose membership comprises citizens from every walk of life," Mr. Hood said, is "probably the best rounded out" program. For his own part he thinks it is possible "to make a very simple statement of the necessities to permit adequate transportation being furnished citizens of the United States at a fair cost. That statement comprises but three words: 'Equality of Opportunity.'"

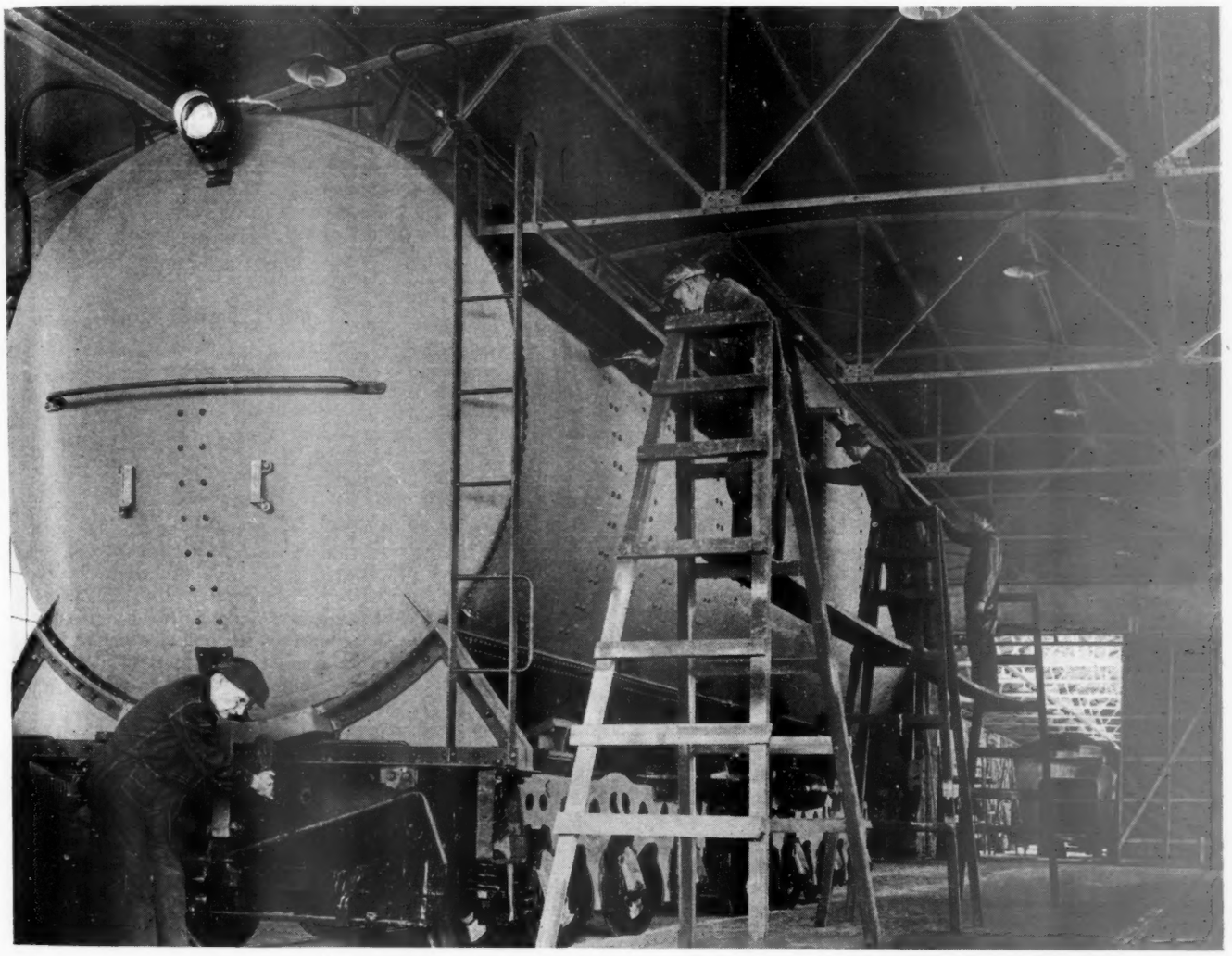
With reference to "financial plans," upon which "an enormous amount of good white paper has been used," Mr. Hood spoke as follows:

"Loans.—It is no more possible to rejuvenate a railroad already badly in debt by advancing it more money than it is to change over a debt ridden family into a prosperous one by making available more money to that family.

"Reduction of long time debts and fixed charges.—This is another bugaboo which has no place. In fact if the entire debt structure with the attendant fixed charges of the railroad industry were wiped out at one fell swoop, there still would remain the problem of assuring the continued operation

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METHODS AND MACHINERY THAT GUARD LIMA QUALITY



GOOD LOOKS . . . *is good business*

In a light and airy paint shop, the modern locomotive gets the finishing touch.

And in these days when styling and appearance are important in building traffic and public acceptance, Lima is justly proud of its paint work.

Proper ventilation and temperature for uniform drying were particularly sought after in building this shop.

As a result, the final appearance of Lima locomotives does credit to the unseen workmanship that makes quality of performance.

LIMA LOCOMOTIVE WORKS — LIMA LOCOMOTIVE WORKS INCORPORATED — INCORPORATED, LIMA, OHIO

of the railroads at rates which the public would pay and which would provide a fair return upon the invested capital. It has often been said before, and I repeat it here, that every valuation of the property used by the railroads in the conduct of their transportation business, emphatically contradicts any statement that a single drop of water is contained in the total capital obligations of the railroad industry, as a whole, in the hands of the public.

"Rates.—Much ado is being raised as to the rate level. In reality competition has and is likely to continue fixing the charges which a railroad may levy for the rendition of any particular service and legislation is unlikely to have any particular effect upon such charges."

Army Pushes Work for Water Lines

(*Continued from page 817*)

conditions on the Illinois waterway is reflected in the increased tonnage for the calendar year 1937, which totaled 1,637,257 tons, nearly 1,000,000 tons over that of the previous year. The through traffic on this waterway in 1937 amounted to over 400,000 tons."

Maintenance of the nine-ft. channel in the Ohio river required "continued dredging of shoals at river bars due in part to recurring flood conditions." The raising of the crest at Emsworth dam, 6.2 miles below Pittsburgh, Pa., and the installation of new crest gates was "practically completed" during the year. Also, the "modern lock and dam" at Gallipolis on the Ohio and Winfield lock on the Kanawha have been completed. The completed system on the Ohio now comprises 46 locks and dams and on the Kanawha three locks and dams. Similar work was done on the Allegheny, the Monongahela, the Black Warrior and various other projects, while $37,671,781 was spent on maintenance, which was centered "upon localities where dredging would best serve the interests of navigation, and where repairs were most necessary for the preservation of jetty and breakwater structures."

While the Inland Waterways Corporation was achieving its "most satisfactory results," it was likewise, according to the report, achieving the purpose of Congress "to encourage the development of barge transportation on our inland waterways." Its reported net income for the year ended June 30 was $605,419, up 300 per cent from the previous year's $179,149. Tonnage carried increased from 2,481,684 tons to 3,100,727 tons; gross was up from $6,671,674 to $7,836,790, while total expenses, including depreciation, increased from $6,500,195 to $7,231,371. The Corporation's program for the improvement of its facilities is now about completed; it involved an expenditure of $3,200,000, "all paid out of funds accruing from operations." The earned surplus at the time of the report was "in round numbers" $2,730,000; the fleet consisted of "28 of the most modern towboats, three harbor tugs, 276 modern steel barges, and a number of miscellaneous craft." Mr. Woodring's discussion of the Federal Barge Line closes with the assertion that "the net savings to the public in freight rates from the inception of the Corporation to December 31, 1937, aggregates $28,412,000."

The section on the Panama Canal reveals that during the year under review the revenues from the operations of the canal itself totaled $23,305,527, while the operating expenses were $9,395,624 and the net revenue $13,909,903. The latter was increased to $14,734,516 by the addition of the $824,613 net from the business operations of the canal. As stated at the outset the Panama Railroad Company reported a net revenue of $1,347,737; it paid the federal government $350,000 in dividends. As the report points out the railroad, in addition to its rail line, conducts "numerous activities incidental to the operation of the canal." Three new vessels which are being built for its steamship line between New York and Cristobal are all expected to be in service by June, 1939.

10 Months N. O. I. $273,709,020

(*Continued from page 817*)

five in the Southern district and 17 in the Western district.

Gross for October amounted to $343,440,983 compared with $372,925,813 in October, 1937, and $477,966,434 in October, 1930; operating expenses totaled $242,409,081 compared with $270,357,354 in the same month in 1937, and $322,443,081 in October, 1930.

Class I roads in the Eastern district for the first 10 months had a net of $142,450,476, which was at the annual rate of 1.37 per cent; for the same period in 1937, their net was $302,079,346 or 2.92 per cent while in 1930 it was $388,453,595 or 3.83 per cent. Gross in the Eastern district for the 10 months totaled $1,373,823,396, a decrease of 22.2 per cent compared with 1937, and a decrease of 38.7 per cent compared with 1930; operating expenses totaled $1,040,720,527, a decrease of 17.9 per cent below the same period in 1937, and a decrease of 37.1 per cent below the first 10 months of 1930. October net in the Eastern district was $34,034,703 compared with $31,389,049 in October, 1937, and $47,274,716 in October, 1930.

Class I roads in the Southern district for the first 10 months had a net of $46,145,361, or 1.78 per cent as compared with $64,352,188 or 2.46 per cent in 1937 and $73,164,143 or 2.63 per cent in 1930. Gross in the Southern district for the 10 months amounted to $387,745,905, a decrease of 10.9 per cent compared with the same period in 1937, and a decrease of 28.9 per cent under the same period in 1930; operating expenses totaled $296,656,179, a decrease of 9.2 per cent below the same period in 1937, and a decrease of 30.7 per cent under 1930. The Southern district net for October was $9,337,963 compared with $6,602,945 in October, 1937, and $10,146,795 in October, 1930.

The 10-months net in the Western district was $85,113,183 or 0.94 per cent; for the same 10 months in 1937, it was $165,258,408 or 1.83 per cent, and for the same period in 1930 it was $297,420,898 or 3.21 per cent. Gross in the Western district for the 10-months' period amounted to $1,165,903,489, a decrease of 13.4 per cent below the same period in 1937, and a decrease of 32.5 per cent under the same period in 1930. Operating expenses totaled $920,893,113, a decrease of 10.8 per cent compared with the same period in 1937, and a decrease of 26.7 per cent under the same period in 1930. For October, the Class I roads in the Western district reported a net of $25,193,089 compared with $22,868,445 in October, 1937, and $53,501,838 in October, 1930.

G. W. R. Issues Jubilee Issue

The Great Western (Great Britain) has issued a special 45-page issue of the Great Western Railway Magazine to commemorate 50 years of continuous publication since inauguration of the "Great Western Railway Magazine and Temperance Union Record," in November, 1888. A foreword by Viscount Horne, chairman of the Great Western, points out that the predictions of its founders were too narrow in scope; that in reality the magazine has proved to be far more than an organ read only by workers of the railroad but in fact "is an eminently readable journal of a scope wide enough to attract a much greater public, and its articles are rich in attractive presentations of English life in a great variety of forms."

The special issue, in addition to regular monthly features, contains a large group of articles of historical interest, special articles of a more timely nature, and a large number of illustrations, many of which are reproductions of pen sketches appearing in early issues of the magazine. An article of particular interest is one entitled "Pre-War Railway Humor" which reproduces jokes appearing in the English humor magazine "Punch" having a railway connotation.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION.—R. P. Ives, Westinghouse Air Brake Co., 350 Fifth Ave., New York, N. Y.

ALLIED RAILWAY SUPPLY ASSOCIATION. — J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, F. T. R., M. & O. R. R., 327 S. La Salle St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS. — E. P. Soebbing, 1431-B Railway Exchange Bldg., St. Louis, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Union Station, St. Louis, Mo., Annual meeting, June 6-8, 1939, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. Annual meeting, January 20-21, 1939, Philadelphia, Pa.

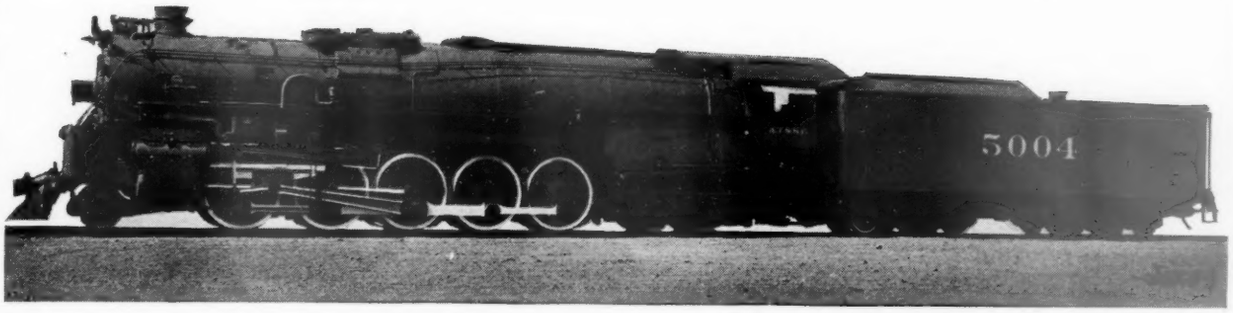
AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS. — F. R. Borger, C., I & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, 319 N. Waller Ave., Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York, N. Y.

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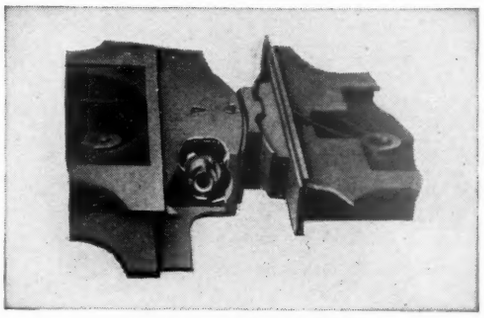
Another Road Applies the NEW RADIAL BUFFER



...to assure easier riding and greater safety

Slack has been eliminated and excessive vibration avoided by the application of Franklin E-2 Radial Buffers on new locomotives recently delivered to the Santa Fe by The Baldwin Locomotive Works. This application results in engine and tender becoming a single unit with vastly improved riding qualities, reduced maintenance, and greater safety.

On the 2-10-4 freight locomotives, reduced maintenance on both engine and track is further assured by installation of the Franklin Lateral Motion Device. Increased firing efficiency, a minimum of labor and fuel consumption, has been assured by the incorporation of Franklin Fire Doors and Franklin Steam Grate Shakers.



Franklin E-2 Radial Buffer

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—E. J. Hoddy (Second Vice-Pres.), Louisville & Nashville R. R., Louisville, Ky.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in co-operation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 14-16, 1939, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—M. W. Jones, Baltimore & Ohio R. R., 1105 B. & O. R. R. Bldg., Baltimore, Md.

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C., M., St. P. & P. R. R., 11402 Calumet Ave., Chicago, Ill.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—R. E. Schindler, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y. Annual meeting, December 5-9, 1938, 29 W. 39th St., New York, N. Y.
Railroad Division.—Marion B. Richardson, 21 Hazel Ave., Livingston, N. J.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION. — H. L. Dawson, 1427 Eye St., N. W., Washington, D. C. Annual meeting, January 24-26, 1939, Willard Hotel, Washington, D. C.

ASSOCIATION OF AMERICAN RAILROADS. — H. J. Forster, Transportation Bldg., Washington, D. C.
Operations and Maintenance Department.—J. M. Symes, Vice-President, Transportation Bldg., Washington, D. C.
Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Safety Section. — J. C. Caviston, 30 Vesey St., New York, N. Y.
Telegraph and Telephone Section. — W. A. Fairbanks, 30 Vesey St., New York, N. Y.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 14-16, 1939, Palmer House, Chicago, Ill.
Construction and Maintenance Section. W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 14-16, 1939, Palmer House, Chicago, Ill.
Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.
Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y. Annual meeting, March 13-14, 1939, Hotel Stevens, Chicago, Ill.
Mechanical Division.—V. R. Hawthorne, 59 E. Van Buren St., Chicago, Ill. Next meeting, June 1939 (tentative), New York, N. Y.
Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.
Purchases and Stores Division.—W. J. Farrell, 30 Vesey St., New York, N. Y.
Freight Claims Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.
Motor Transport Division. — George M. Campbell, Transportation Bldg., Washington, D. C.
Car-Service Division. — E. W. Coughlin, Transportation Bldg., Washington, D. C.
Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.
Accounting Division. — E. R. Ford, Transportation Bldg., Washington, D. C.
Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C.
Traffic Department. — A. F. Cleveland, Vice President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—W. S. Carlisle, National Lead Company, 900 W. 18th St., Chicago, Ill. Meets with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB. — C. R. Crook, 4468 Oxford Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month, except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel Mayfair, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Chief Clerk, Mechanical Dept., C., B. & Q., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 2514 W. 55th St., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St., (11th floor), New York, N. Y. Next meeting, March 30, 1939, Washington, D. C.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION. — F. T. James, General Foreman, Delaware, Lackawanna & Western, Kingsland, N. J.

INTERNATIONAL RAILWAY MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich.

MASTER BOILER MAKERS' ASSOCIATION. — A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Clyde S. Bailey, New Post Office Bldg., Washington, D. C. Annual meeting, August 22-25, 1939, Seattle, Wash.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB. — D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Friday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y. Annual dinner, December 8, 1938, Hotel Commodore, New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 3275, San Francisco, Cal. Regular meetings, second Thursday of each month, alternately at San Francisco and Oakland, except June at Los Angeles and January, 1939 at Sacramento.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—J. Mc C. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill.

RAILWAY FIRE PROTECTION ASSOCIATION.—P. A. Bissell, 40 Broad St., Boston, Mass.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, 1255 Old Colony Bldg., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa. Meets with Mechanical Division and Purchases and Stores Division, Association of American Railroads.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—C. A. Lichty, 319 N. Waller Ave., Chicago, Ill. Annual meeting September 19-21, 1939, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R., Signal Section.

SOCIETY OF OFFICERS, UNITED ASSOCIATIONS OF RAILROAD VETERANS. — J. W. O'Neill, 310 Academy St., South Orange, N. J.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS. — D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. & C. Company, 59 E. Van Buren St., Chicago, Ill. Meets with Roadmasters' and Maintenance of Way Association.

WESTERN RAILWAY CLUB.—W. L. Fox, (Executive Secretary), Room 822, 310 South Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago, Ill.

Financial

BOSTON & MAINE.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Salem branch, extending from Wilmington Junction, Mass., to South Middleton, seven miles.

CHICAGO & ILLINOIS MIDLAND.—*Notes.*—This company has asked the Interstate Commerce Commission for authority to issue $1,200,000 of its five per cent unsecured notes, maturing on December 1, 1948. The notes will be delivered to the Commonwealth Edison Company for advances made to the applicant by that company.

CHICAGO & NORTH WESTERN-CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Reorganization Cases Reopened.*—The Interstate Commerce Commission, Division 4, has reopened the reorganization cases of both companies in order to hear oral argument, on December 15, on petitions seeking permission to file a plan of reorganization involving consolidation of both systems. The petitions have been filed by the Protective Committee for holders of common stock of the North Western and by the Protective Committee for holders of the preferred stock of the Milwaukee. The oral argument will be held before Division 4.

CHICAGO GREAT WESTERN.—*Acquisition.*—The Interstate Commerce Commission, Division 4, has authorized the trustees to acquire a portion of the Altamont-Stillings Junction branch of the Chicago, Rock Island & Pacific extending southwesterly from Beverly, Mo., to Stillings Junction, 3.7 miles.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Reorganization.*—The Interstate Commerce Commission has authorized the Railway Labor Executives' Association to intervene in this proceeding.

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized the trustees to (1) abandon a branch line of railroad extending from Altamont, Mo., to Stillings Junction, 67.5 miles; (2) abandon operation under trackage rights over a line of the Leavenworth Terminal Railway & Bridge Company, extending from Stillings Junction, Mo., to Leavenworth, Kans., 1.4 miles; and (3) abandon operation under trackage rights over a line of the Leavenworth Depot & Railroad in the city of Leavenworth, 0.7 mile.

The commission's statement points out that certain railroad labor organizations had taken the position before the commission that it should make the abandonment contingent upon the railroad taking care of the employees who would be displaced by it. The commission's decision goes on to say that it does not believe it has power to set up such conditions where abandonments are involved.

Commissioner Porter, dissenting in part, said he did not believe the commission was powerless to set up labor conditions, pointing out that he had more fully expressed

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NO. 74 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



GRUNDJETOBEL VIADUCT

SWITZERLAND

The Grundjetobel Viaduct on the Swiss Federal Railways is a particularly striking example of graceful construction in ferro-concrete, the viaduct being designed so as not to mar the beauty of the scenery. The viaduct has a total length of 162 ft. and is 138 ft. in height in the center. The span of the main parabolic is 282 ft., this being a flat arch of somewhat unusual design. » » » The Security Sectional Arch, at the time of its introduction, was also a revolutionary design. But, in the 28 years that it has been serving the railroad industry, it has effected such economies that today the Sectional Arch is standard on American railroads. To realize the true efficiency of your arch make sure every brick is in place before the locomotive leaves the roundhouse.

* * *

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
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Locomotive Combustion Specialists

himself on this subject in an earlier case involving the Chicago Great Western, 207 I. C. C. 315, 323.

CHESAPEAKE & OHIO.—*Dissolution of Chesapeake Corporation.*—A vote representing over 73 per cent of the corporation's stock was cast in favor of dissolution of the Chesapeake Corporation, intermediate holding company in the former Van Sweringen "rail empire," at a stockholders meeting held on November 28 in Baltimore, Md. More than 70 per cent of the stock was voted by the Guaranty Trust Company which has control of the holdings under indentures of Alleghany Corporation bonds giving it voting control of Alleghany's holdings in Chesapeake as long as the value of the stock remains less than 150 per cent of the face value of the bonds. Robert R. Young, chairman of the board of Alleghany, opposed the liquidation move on the ground that, according to advice received from F. A. O. Schwarz, counsel for the Guaranty, that the future income of Chesapeake, once dissolution is voted, cannot be used for the purpose of servicing the Alleghany Corporation bonds, which "may mean default and Alleghany's valuable railroad properties may go into his client's hands for all time, even though the interest requirements are being earned by a large margin." Mr. Young and Allan P. Kirby, an associate in the syndicate which controls Alleghany, resigned from the Chesapeake board on November 29.

The same day the directors of the Chesapeake Corporation voted a liquidating dividend of six-tenths of a share of Chesapeake & Ohio common stock held by it on each share of Chesapeake Corporation stock.

DELAWARE, LACKAWANNA & WESTERN.—*R. F. C. Loan.*—The Interstate Commerce Commission, Division 4, has conditionally approved a loan to this company by the Reconstruction Finance Corporation of $2,000,000, the proceeds to be used to meet tax accruals on December 1, including $1,968,594 taxes which the State of New Jersey has levied against the property of the company and its leased subsidiaries in New Jersey, and $31,406 of a tax of $197,755 levied by the city of Buffalo, N. Y. As security for the loan, which will run for five years, the company will give its promissory note or notes, bearing interest at four per cent, with the privilege of prior repayment on 30 days' written notice at any time, after the first year, at a price of 102 during the second year, 101 during the third year, and 100½ after the third year.

ELGIN, JOLIET & EASTERN.—*Merger.*—Hearings on the merger of the Elgin, Joliet & Eastern, Chicago, Lake Shore & Eastern, and Joliet & Blue Island into the Elgin, Joliet & Eastern were held before the Interstate Commerce Commission on November 23. S. M. Rogers, president of the road, testified briefly, pointing out that the three companies had been unified under one management for many years and that the merger would simply unite them in one company. He asked the commission to expedite the case in order that the merger might be consummated before the first of the year to simplify accounting procedure and the preparation of annual reports.

GILMORE & PITTSBURGH.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from valuation station 849 plus 36 southerly to the end of the track at Gilmore, Ida., consisting of 18 miles of main line track and 1.4 miles of yard tracks.

ILLINOIS CENTRAL.—*Bonds of Yazoo & Mississippi Valley.*—The Yazoo & Mississippi Valley has applied to the Interstate Commerce Commission for authority to extend to January 1, 1952, the maturity date $17,037,000 of its gold government bonds due January 1, 1939. The Illinois Central owns $16,554,000 of the bonds, and has pledged them with the Reconstruction Finance Corporation as security for loans.

MISSOURI PACIFIC.—*Operation.*—The Interstate Commerce Commission, Division 4, has authorized the trustee to operate under trackage rights over the Municipal Bridge and approaches crossing the Mississippi River between St. Louis, Mo., and East St. Louis, Ill., and over a track of the Terminal Railroad Association of St. Louis in East St. Louis, Ill., 5.6 miles.

NEW YORK CENTRAL.—*Abandonment Denied.*—The Interstate Commerce Commission, Division 4, has denied the application of this company for authority to abandon a line extending from Suspension Bridge, N. Y., to Lewiston, 5.3 miles. The commission, through Division 4, had previously granted the road permission to abandon the line as no opposition had been voiced at the hearing. After the certificate had been granted, the towns of Lewiston, Youngstown, and Porter protested to the commission, saying that they had not seen the notice of the hearing on the abandonment. The present report is based on a further hearing in which it was found that these towns needed rail service and that there was enough business to justify the continuance of the branch.

NEW YORK, NEW HAVEN & HARTFORD.—*Reorganization.*—The Mutual Savings Bank Committee has applied to the Interstate Commerce Commission for a reopening of this proceeding and for leave to file a modified plan or modifications to the principal debtor's modified plan.

OREGON, PACIFIC & EASTERN.—*Reorganization Plan Recommended.*—Examiner T. K. Carpenter of the Interstate Commerce Commission, in a proposed report to the commission, has recommended that it approve a plan of reorganization for this company which provides for a total capitalization of $300,000. Under the proposed plan, the new company would issue 15,000 shares of five per cent preferred stock having a par value of $10 each and 15,000 shares of new common stock having no par value. The existing bonds of the debtor would be exchanged for the 15,000 shares of preferred stock and 14,995 shares of the common in full settlement of the outstanding bonds and all accrued interest. Preferred stock dividends would be cumulative up to 25 per cent of the par value of the stock, and that stock and the new common would have equal voting rights. Unsecured claims and the common stock of the company would be canceled. The effective date of the plan was fixed by the examiner as January 1, 1939.

RUTLAND.—*Equipment Trust Certificates and RFC Financing.*—The Interstate Commerce Commission, Division 4, has authorized this company and the receiver (1) to extend to June 1, 1941, the dates of maturity of $110,000 of this company's five per cent equipment trust gold certificates, equipment trust of 1924, and (2) to assume liability, as guarantors, for the payment of the principal and dividends of the certificates.

The commission has also authorized the purchase by the Reconstruction Finance Corporation for itself, at not exceeding 97 of $110,000 of Rutland five per cent equipment trust certificates issued and outstanding with the condition that after such purchase the time of payment thereof be extended to June 1, 1941.

ST. LOUIS - SOUTHWESTERN. — *Delisting Stock.*—The United States District Court at St. Louis, Mo., on November 25, instructed the St. Louis-Southwestern to oppose the delisting of its preferred and common stock, as proposed by the New York Stock Exchange. The order was entered upon a petition of the company prior to a hearing to be held by the exchange's committee on Stock List in New York on November 29. The railroad contended that the delisting of the stock, which has a book value of $37,079,700, would injure the company's good will and would be detrimental to the rights of its creditors and stockholders. It also contended that the proposed action might disturb proceedings before the Interstate Commerce Commission on a plan of reorganization.

SAVANNAH & ATLANTA.—*R. F. C. Loan.*—This company has applied to the Interstate Commerce Commission for approval and to the Reconstruction Finance Corporation for a loan of $1,300,000, the proceeds to be used to pay off receivers' certificates and provide new money for the operation of the road. This application supersedes an earlier application asking approval of a loan of $1,700,000.

Average Prices of Stocks and Bonds

	Nov. 29	Last week	Last year
Average price of 20 representative railway stocks..	29.98	30.66	33.00
Average price of 20 representative railway bonds..	60.05	60.71	66.65

Dividends Declared

Atchison, Topeka & Santa Fe. — Preferred, $1.00, payable February 1, 1939, to holders of record December 30.

Chesapeake & Ohio.—50c; Preferred, $1.00, quarterly, both payable January 1 to holders of record December 6.

Boston & Albany.—$2.25, payable December 21 to holders of record November 30.

Mobile & Birmingham.—4 Per Cent Preferred, $2.00, semi-annually, payable January 3 to holders of record December 1.

New York, Lackawanna & Western. — $1.25, quarterly, payable January 3, 1939, to holders of record December 9.

Reading Company.—2nd Preferred, 50c, quarterly, payable January 12 to holders of record December 20.

Union Pacific.—$1.50, payable January 3 to holders of record December 2.

Continued on next left-hand page



Their *New*
Modern *High Speed*
Passenger and Freight
Locomotives provide...

Low Cost Boiler Hp.

as provided by Elesco Type "E" superheaters—the design that provides maximum evaporating and superheating areas so necessary to present day operating conditions.

Dependable Control

as provided by American multiple-valve throttles. With a series of small steel valves, operating in sequence, these throttles provide easy handling.



Superheaters
Feed Water Heaters
Exhaust Steam Injectors
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A-1283

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MONTREAL

Equipment and Supplies

November Equipment Orders

Domestic equipment manufacturers received orders for a total of 3 locomotives, 132 freight cars and 32 passenger-train cars during November. Totals for the year thus far are thereby brought to 133 locomotives, 11,973 freight cars and 150 passenger-train cars. Orders were also received for 4 locomotives for shipment abroad. At the close of the month there were inquiries or contemplated purchases for 46 locomotives, 3,686 freight cars and 12 passenger-train cars. Since the close of the month orders have been placed for 3 Diesel-electric locomotives and 1,100 freight cars.

Domestic Equipment Orders Reported in Issues of The Railway Age in November, 1938

LOCOMOTIVES

Date	Name of Company	No.	Type	Builder
Nov. 12	Seaboard Air Line	1	Diesel-electric	Electro-Motive Corp.
Nov. 12	White Pass & Yukon Route	1	2-8-2	Baldwin Locomotive Works
Nov. 26	Kansas City Terminal	1	Diesel-electric	American Locomotive Co.

FREIGHT CARS

Nov. 5	Illinois Central	100	Flat	Company Shops
Nov. 19	Cornwall Railroad	20	Ore	Bethlehem Steel Co.
Nov. 26	Kennecott Copper Corp. (for Nevada Consolidated Copper Corp.)	12	Air-dump	Austin-Western Road Mach. Co.

PASSENGER-TRAIN CARS

Nov. 5	Southern	25	Express	Bethlehem Steel Co.
Nov. 12	Seaboard Air Line	7	Chair	Edward G. Budd Mfg. Co.

LOCOMOTIVES

THE KANSAS CITY TERMINAL has ordered two 900-hp. Diesel-electric switching locomotives from the Electro-Motive Corporation, confirming the report in the *Railway Age* of November 26.

FREIGHT CARS

THE BESSEMER & LAKE ERIE has ordered 100 flat cars from the American Car & Foundry Co.

THE ILLINOIS CENTRAL has ordered 1,000 50-ton box cars from the American Car & Foundry Co. under the same leasing arrangement as applied to a previous order for 1,000 box cars placed with this company. Inquiry for this equipment was reported in the *Railway Age* of November 19.

PASSENGER CARS

THE PENNSYLVANIA is inquiring for 15 dining cars.

IRON AND STEEL

THE LOUISVILLE & NASHVILLE has ordered 17,280 tons of 100-lb. rail from the Tennessee Coal, Iron & Railroad Company, to be rolled at its Ensley, Ala., plant.

Supply Trade

W. H. Cheffey, auditor and assistant secretary of the **Union Switch & Signal Co.,** Swissvale, Pa., has been promoted to secretary and treasurer. Mr. Cheffey was born in Mt. Pleasant, Ohio, on July 22, 1890, and was educated at Ohio University. In August, 1910, he entered the employ of the United States Coal Company, Cleveland, Ohio, as a payroll and shipping clerk, and remained with this organization until February, 1912, when he entered the accounting department of the Westinghouse Air Brake Company, Wilmerding, Pa. In



W. H. Cheffey

May, 1912, Mr. Cheffey resigned to become assistant cashier of the First National Bank at Smithfield, Ohio, and in July, 1918, entered the United States Army where he served on special duty in connection with personnel. Upon leaving the army, Mr. Cheffey entered the employ of the Union Switch and Signal Company in January, 1919, as a cost clerk, in which capacity he remained until his promotion in November, 1920, to assistant auditor. He was appointed auditor and assistant secretary in June, 1922.

The Ohio Brass Company, Mansfield, Ohio, announces that **Claude R. Kingsbury,** Seattle, Wash., has taken over the territory formerly handled by **J. W. Watkins,** who is leaving the employ of the company. Mr. Kingsbury has been with the company since 1927.

Avery C. Adams, manager of sales, sheet division, of the Carnegie-Illinois Steel Corporation, Pittsburgh, Pa., has resigned to become vice-president and assistant general manager of sales of the Inland Steel Company, Chicago.

Howard V. Clark, general manager of the order division for the **Carnegie-Illinois Steel Corporation,** Pittsburgh, Pa., has been appointed manager of sales of the sheet division of the corporation's general sales department. Mr. Clark succeeds **Avery C. Adams,** resigned.

F. H. Doremus has been appointed manager of the **General Electric** transportation department for the Rocky Mountain district, in addition to his duties as manager of the industrial department at Denver, Colo., for the Rocky Mountain district. Mr. Doremus has been affiliated with the General Electric Company continuously since 1922.

OBITUARY

Floyd L. Ingraham, president of the Marquette Railway Supply Company, Chicago, died in that city on November 28, of heart failure.

Charles C. Kinsman, assistant to the president of the Universal Draft Gear Attachment Company, Chicago, died suddenly on November 14 at his home in Chicago. He was a graduate of the Massachusetts Institute of Technology and had been with the company for 27 years.

Samuel G. Rea, vice-president of the Standard Railway Equipment Company, whose death on November 16 was reported in the *Railway Age* of November 19, was born at Marietta, Ohio. He was educated at the Eastman Business College, Poughkeepsie, N. Y., and first started work with the Vivian Bond & Company, metal importers. He then organized the Century Railway Equipment Company and in 1911, went with the Standard Railway Equipment Company as vice-president in charge of sales in the eastern district, with headquarters at New York. He attended the Second Plattsburg Camp, Plattsburg, N.



Samuel G. Rea

Y., during the World War and attained the rank of lieutenant-colonel in the 305th Field Artillery.

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Light Weight

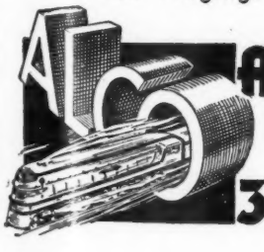
ALCO FORGINGS

REDUCE OPERATING EXPENSES

IN THIS day and age railroads cannot risk the danger of higher costs that go hand in hand with unknown quality. The long life and trouble-free service delivered by Alco Forgings not only protects engine service and improves availability, but eliminates many important items of upkeep thereby positively reducing operating expenses.

With Alco Forgings high quality—with resulting reliability—is uppermost. You are assured of thoroughly solid homogeneous forgings scientifically heat treated and accurately machined which will consistently meet every demand for dependable and economical locomotive performance.

Alco Forgings are the finest forgings money can buy and cost least in the long run.



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Railway Officers

EXECUTIVE

Edgar D. Hilleary, vice-president in charge of traffic of the Reading and the Central of New Jersey, with headquarters at Philadelphia, Pa., will retire on January 1 at his own request due to ill-health. Mr. Hilleary was born at Petersville, Md., on September 10, 1877, and was educated at St. John's College, Annapolis, Md. He entered the service of the Reading in 1897 as a clerk and continued in various clerical capacities until 1905 when he was appointed an agent. The following year Mr. Hilleary was promoted to division freight agent on the New York division, being transferred in 1910 to the Harrisburg division. In 1918 Mr. Hilleary became assistant general freight agent at Reading terminal, being appointed general freight agent in 1921. In the same year he was further advanced to freight traffic manager, which position he retained until April



Edgar D. Hilleary

3, 1923, when he became vice-president in charge of freight traffic. His title was changed to vice-president in charge of traffic in 1932. In 1933 Mr. Hilleary also assumed the vice-presidency in charge of traffic of the Central of New Jersey. Mr. Hilleary has been closely associated with the Associated Traffic Clubs of America and the Transportation Association of America.

George H. Pabst, Jr., treasurer of the Pennsylvania, with headquarters at Philadelphia, Pa., has been promoted by action of the board of directors to assistant vice-president and treasurer. Mr. Pabst was born in New York City in 1888 and attended the public schools of Philadelphia, completing his education at the Evening School of Accounts and Finance of the University of Pennsylvania. He has been in the service of the Pennsylvania continuously since 1906, starting as a clerk in the accounting department. Three years later he was transferred to the office of the second vice-president, and in 1917 became chief clerk to the special assistant to president. On July 1, 1925, Mr. Pabst was promoted to analyst in the treasury department. He became assistant treasurer on



George H. Pabst, Jr.

December 1, 1926, and was elected treasurer on April 24, 1929.

Albert John County, vice-president of the Pennsylvania, in charge of finance and corporate relations, has retired from active duty, under the railroad's pension rules, after 48 years in the company's service. Mr. County has served under seven presidents of the company, and has been a director since 1920. He was born in Dublin, Ireland, on August 1, 1871, and began his railway career in 1885 as a clerk with the Great Southern & Western in Dublin. He came to America in 1890 and, while working in a clerical capacity in the office of the secretary of the Pennsylvania at Philadelphia, attended the Wharton School of the University of Pennsylvania, from which he was graduated with the degree of Bachelor of Science in Economics. He became chief clerk in 1898, and assistant to the secretary on September 1, 1900. Mr. County was appointed assistant secretary of the Pennsylvania in February, 1901, and from 1906 to 1912 was assistant to vice-president.

In 1913 he was appointed special assistant to the president and in this position had much to do with the consolidation of many smaller railroad properties within the Penn-



A. J. County

sylvania system. He was also a prominent figure in the railroad's tunnel and terminal project at New York, through which the company's lines were extended into the heart of Manhattan and a direct rail connection to New England effected. On March 8, 1916, Mr. County was appointed vice-president in charge of accounting, and in May, 1923, became vice president in charge of accounting and corporate work. Two years later he was also given jurisdiction over the treasury department and on June 1, 1929, became vice-president in charge of finance and corporate relations. During his long service, Mr. County has played an important part in shaping the corporate and financial structure of the Pennsylvania and its affiliated companies and in advancing, from the corporate standpoint, important construction and improvement projects undertaken by the company. He has served for some years as a director of Pennroad Corporation, and as an officer and director of practically all the subsidiary companies in the Pennsylvania system. He is a director of the Norfolk & Western and a member of the American Academy of Political and Social Science.

FINANCIAL, LEGAL AND ACCOUNTING

L. M. Edrington, auditor of the Gulf Coast Lines, with headquarters at Houston, Tex., has been elected also auditor of the Houston Belt & Terminal, with the same headquarters, succeeding **M. Eckert,** who has resigned, and **F. H. Curtis** has been elected acting secretary and acting treasurer, replacing **M. M. Smith,** deceased.

J. W. Shields, general accountant of the Norfolk & Western, has been appointed auditor of disbursements, with headquarters as before at Roanoke, Va., to succeed **J. W. Rhodes,** who has been appointed auditor of revenues, succeeding **W. A. Gibbons,** retired. **R. E. Petterson,** chief clerk to comptroller, has been promoted to general accountant. **C. R. Fichtenger,** chief disbursement agent, has been appointed assistant to comptroller, succeeding **Gooch Vaughan,** retired.

Austin J. McMahon, assistant to general counsel of the Delaware, Lackawanna & Western, has been apppointed assistant general counsel. **John E. Morrissey,** assistant general attorney, has been promoted to general attorney for New York, to succeed **Douglas Swift. John A. Laird,** attorney, has been promoted to general attorney for New Jersey. **Fred E. Walter,** attorney, has been promoted to assistant general attorney.

Mr. McMahon was born in Binghamton, N. Y., and was graduated from Cornell University in 1897, with an A.B. degree. He studied law at Syracuse with the firm of Hiscock, Doheny, Williams and Cowie, being admitted to the bar of New York at Rochester, in December, 1900. Mr. McMahon practiced law at Syracuse from 1905 to 1909, when he became a member of the legal staff of the Lackawanna.

John L. Seager, assistant general counsel of the Delaware, Lackawanna & Western, with headquarters at New York, has retired. Mr. Seager was graduated from the law school of Cornell University in

1890, was admitted to the bar of New York, and entered upon the practice of law at Syracuse in 1892. He joined the legal staff of the Lackawanna on January 1, 1906, and during federal control Mr. Seager was general solicitor in charge of Lackawanna affairs for the railroad administration. He became assistant general counsel at the termination of federal control.

F. G. McGee, assistant treasurer of the Norfolk & Western, with headquarters at Philadelphia, Pa., has been appointed treasurer, with headquarters at Roanoke, Va., succeeding **W. S. Hurt,** who retired on December 1, after 58 years of service. **W. A. Russ,** cashier, has been appointed assistant treasurer, with headquarters as before at Philadelphia, succeeding Mr. McGee. **S. P. Chockley,** chief clerk to the treasurer, has been appointed assistant treasurer at Roanoke. Mr. McGee was born on November 10, 1884, at Philadelphia and entered the service of the Norfolk & Western on February 18, 1903, as a clerk in the office of the secretary at Philadelphia. He was later transferred to the treasurer's office and then to the office of vice-president in charge of finances. Mr. McGee served as deputy comptroller at



F. G. McGee

Philadelphia during the period of government operation of the carriers. On March 1, 1920, he was made chief clerk to the vice-president in charge of finances, and on February 1, 1936, he was appointed assistant treasurer.

Mr. Hurt was born in Wytheville, Va., on July 12, 1868, and entered the service of the Norfolk & Western there as a messenger during the summer of 1880. In 1888, he was promoted to assistant agent at Wytheville and several months later, was transferred to Allisonia, Va., as agent and operator. Following service at Chilhowie, Va., he was transferred to Roanoke in 1891 as clerk under the paymaster. The pay car was in use at that time and Mr. Hurt accompanied it over the railway during the period the Norfolk & Western was building its Ohio extension. When the pay car was discontinued, Mr, Hurt was given the position of pay clerk. In 1918 he was promoted to cashier. Two years later, he was promoted to assistant treasurer. Mr. Hurt became treasurer of the railroad on April 1, 1931, the position he held until his retirement.

Douglas Swift, general attorney for the Delaware, Lackawanna & Western in New York, has been promoted to vice-president and general counsel, to succeed **William S. Jenney,** who has retired from



Blank & Stoller

Douglas Swift

that position, but will continue with the company as special counsel. Mr. Swift was born at Cuba, N. Y., and was graduated from Cornell University in 1904. He studied law in Cuba and Buffalo, N. Y., and in 1907 he was admitted to the bar of New York state. He became a member of the Lackawanna's legal staff in July, 1907, and two years later became assistant commerce counsel, being advanced to commerce counsel in May, 1915. Mr. Swift was promoted to general attorney in March, 1917, and during federal control, was the solicitor of the Lackawanna from June, 1918, to March, 1920. He was appointed general attorney, following the return to private management.

Mr. Jenney was born at Syracuse, N. Y., and was graduated from Princeton University in 1889. He became local attorney of the Lackawanna at Syracuse in April, 1891, and was advanced to district attorney



Blank & Stoller

William S. Jenney

on November 1, 1903, in charge of the Oswego & Syracuse, the Syracuse, Binghamton & New York and the Lackawanna's Utica division. Mr. Jenney was appointed general attorney of the Delaware, Lackawanna & Western on July 1, 1905, in charge of the legal department, with headquarters at New York. He was promoted to vice-president and general counsel on March 1, 1908. Mr. Jenney was instrumental in formulating policies which guided the American railroads in matters concerned with the adjustment of rates and practices to the requirements of business and was active in the adjustment of the railroads to changed conditions during the last 33 years. He had charge of all legal matters connected with the segregation, in compliance with the decision of the United States Supreme Court, of the anthracite properties owned by the Lackawanna.

OPERATING

J. E. Gauthier has been appointed acting assistant superintendent of the Cochrane division of the Canadian National, with headquarters at Parent, Que., succeeding **J. H. Pakenham,** transferred.

Harry G. Balch, supervisor of passenger trains of the Boston & Maine, has been appointed trainmaster of the New Hampshire division, with headquarters at Woodsville, N. H.

James Frank Ross, assistant to vice-president of the Railway Express Agency, has been appointed general manager of the New York City department, effective January 1, to succeed **Robert Balfour,** who will retire on December 31, after more than half a century in express service.

Henry W. Davidson, trainmaster on the Missouri-Kansas-Texas, with headquarters at Waco, Tex., has been promoted to superintendent of the South Texas district, with headquarters at Smithville, Tex., succeeding **F. P. Blount,** whose death on September 23, was reported in the *Railway Age* of October 22. **J. I. Poole,** chief dispatcher at Parsons, Kan., has been advanced to trainmaster, with headquarters at Waco to replace Mr. Davidson.

G. W. Raney, superintendent of the Missouri-Kansas division of the Chicago, Rock Island & Pacific, with headquarters at Kansas City, Mo., has been promoted to general superintendent of the Third Operating district, with headquarters at El Reno, Okla., succeeding **C. B. Pratt,** and **W. H. Kelly,** superintendent of the Rock Island division, has been promoted to general superintendent of the Second Operating district, with headquarters at Kansas City, replacing **J. J. Breheny,** who has been appointed assistant to general manager, a newly created position, with the same headquarters. Mr. Pratt has been appointed superintendent of the Arkansas division, with headquarters at Little Rock, Ark., relieving **J. E. Henderson,** who has been transferred to the Oklahoma division, with headquarters at El Reno, succeeding **O. W. Limestall,** who in turn, has been transferred to the Rock Island division, with headquarters at Rock Island, relieving Mr. Kelly. **J. H. Johnson,** trainmaster at Rock Island, has been promoted to superintendent of the Cedar Rapids division, replacing **C. C. Cunningham,** who has been transferred to

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ELECTRO-MOTIVE

SUBSIDIARY OF GENERAL MOTORS

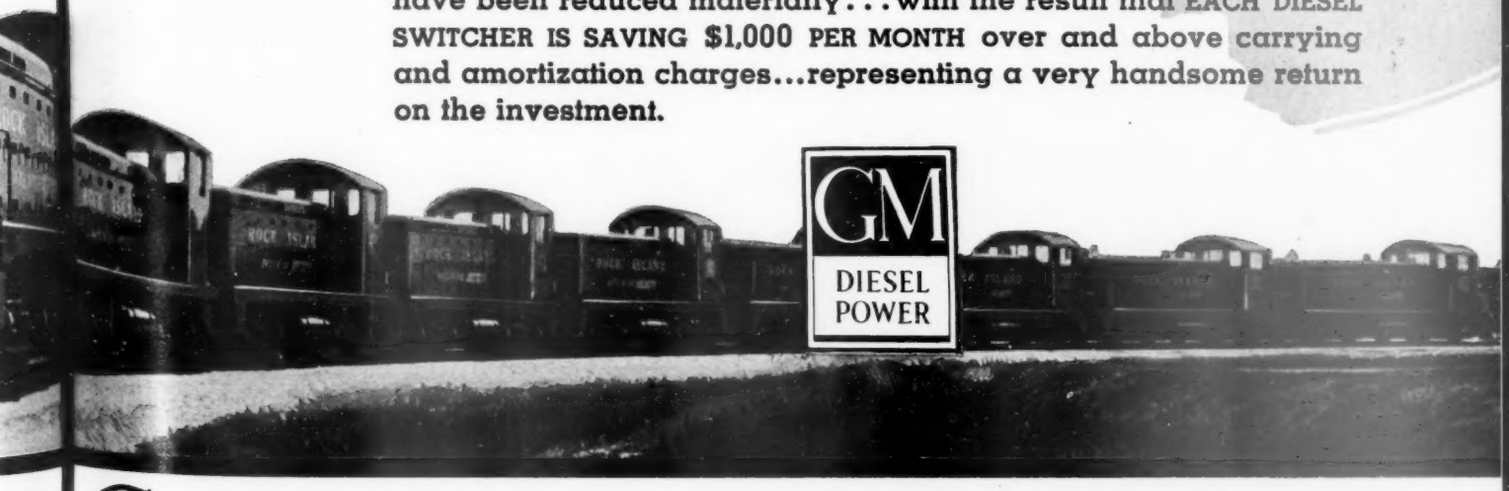
ighlights...

FROM EMC DIESEL SWITCHER OPERATION ON THE ROCK ISLAND

SERVICE RECORDS on the Rock Island illustrate the broad scope of Diesel economies and provide strongest evidence in favor of EMC Switcher operation...The Rock Island's experience is particularly noteworthy because it covers—not one or two installations—but thirty-seven. It demonstrates how greatest benefits and maximum savings are derived from mass Dieselization and fully Dieselized yards.

Eighteen months ago the Rock Island placed in service eleven EMC Diesel Switchers. Their continuous record of 98 per cent availability with IMMEDIATE reductions in operating costs warranted the installation of ten additional units — then sixteen more — making a total of thirty-seven — 29 – 600 Hp. and 8 – 900 Hp.

These 37 EMC Diesels have now replaced 80 steam switchers. Availability has averaged 98 per cent . . . Fuel costs have been reduced 75 per eent . . . Maintenance and enginehouse expenses have been reduced materially . . . with the result that EACH DIESEL SWITCHER IS SAVING $1,000 PER MONTH over and above carrying and amortization charges...representing a very handsome return on the investment.



CORPORATION

LA GRANGE, ILLINOIS, U. S. A.

the Des Moines division, with headquarters at Des Moines, Iowa, succeeding **C. L. Bakke,** who has been transferred to the Missouri-Kansas division, with headquarters at Kansas City, relieving Mr. Raney.

H. R. Younger, division engineer of the Kootenay division, British Columbia district, of the Canadian Pacific, has been promoted to superintendent of the Kettle Valley division, with headquarters at Penticton, B. C., succeeding **W. J. McLean,** who has been transferred to the Kootenay division, with headquarters at Nelson, replacing **E. S. McCracken.** Mr. McCracken has been transferred to the Revelstoke division, with headquarters at Revelstoke, B. C., relieving **James J. Horn,** who retired on December 1.

Mr. Horn was born at Carleton Place, Ont., on November 26, 1873, and entered railway service in January, 1892, as an agent and telegraph operator on the Lake Superior division of the Canadian Pacific, later being transferred to the Manitoba division. In 1895, he was promoted to train dispatcher at Fort William, Ont., and in 1906 he was advanced to chief dispatcher, serving in that capacity at Fort William and at Kenora, Ont. In 1912, he was appointed inspector of transportation, with headquarters at Winnipeg, Man., and a year later, he returned to Kenora as chief dispatcher. In 1915, he was promoted to trainmaster, with headquarters at Ignace, Ont., and the following year he was appointed chief train dispatcher, with headquarters at Kenora. Mr. Horn was promoted to division superintendent with headquarters at Kenora, in February, 1919, and in May, 1929, he was transferred to the Revelstoke division, with headquarters at Revelstoke, B. C.

Fred J. Byington, assistant general superintendent on the Chicago & North Western with headquarters at Chicago, has been promoted to general superintendent, with the same headquarters, succeeding **B. E. Terpning,** who retired on December 1, and **C. E. Sainsbury,** assistant general superintendent, with headquarters at Norfolk, Neb., has been advanced to general superintendent of the Western lines, with



Fred J. Byington

headquarters at Omaha, Neb., replacing **H. E. Dickinson,** who also retired on December 1. **W. A. Kraemer,** superintendent of the Galena division, with headquarters at Chicago, has been promoted to assistant general superintendent with the same headquarters, relieving Mr. Byington and **H. R. Koch,** assistant division superintendent, with headquarters at Chicago, has been promoted to superintendent of the Galena division succeeding Mr. Kraemer. **W. S. Alcumbrac,** trainmaster on the Milwaukee division, has been promoted to assistant division superintendent of the Galena division replacing Mr. Koch, and **H. J. Wrath,** a conductor on the Wisconsin division, has been appointed trainmaster of that division.

Mr. Byington was born at Rochelle, Ill., on September 3, 1876, and entered railway service on June 1, 1890, as a telegraph operator on the Galena division of the Chicago & North Western. He served as a telegrapher and later as a train dispatcher. In 1907, he was promoted to chief train dispatcher at Boone, Iowa, and in 1910 he was promoted to assistant division superintendent, serving at Adams, Wis., and Baraboo. In February, 1913, he was advanced to superintendent of the West Iowa division, with headquarters at Boone, and in 1916 was transferred to Escanaba, Mich.



B. E. Terpning

Mr. Byington was transferred to the Wisconsin division, with headquarters at Chicago in 1919, and in 1924, he was promoted to assistant general superintendent.

Mr. Terpning was born at Richland, N. Y., on October 18, 1868, and entered railway service in 1888 in the operating department of the Wisconsin Central (now a part of the Minneapolis, St. Paul & Sault Ste. Marie). In 1892 he entered the operating department of the North Western at Chicago, and subsequently served in various capacities in that department. He was promoted to trainmaster, with headquarters at Tracy, Minn., in 1904, and in 1905, he was advanced to assistant division superintendent, with headquarters at Chicago. In 1914, he was promoted to division superintendent with headquarters at Belle Plaine, Iowa, and in 1918, he was transferred to Chicago. Mr. Terpning was promoted to general superintendent in 1919, and the following year he was appointed assistant general superintendent. He was again advanced to general superintendent, with headquarters at Chicago, in May, 1924.

Mr. Kraemer was born on November 7, 1889, and entered the employ of the Chicago & North Western on July 13, 1903, as a telegraph operator at Jackson, Wis. For the next six years he served as a



W. A. Kraemer

pump and switchlamp tender at Rockfield, Wis., and an agent and operator at points in Wisconsin. In 1909, he was promoted to suburban inspector of the Wisconsin division, soon after to transportation inspector, and in November, of the same year, to chief train dispatcher of the Wisconsin division with headquarters at Chicago. He held this position until November, 1919, when he was promoted to assistant superintendent of the Wisconsin division at Chicago. In May, 1935, he was promoted to superintendent of the Galena division.

TRAFFIC

J. F. Lahey, traveling freight agent of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters in Chicago, has been promoted to division freight agent with the same headquarters, to succeed **James T. Armstrong,** who retired on December 1, after 46 years of service.

W. T. Burns, whose promotion to assistant freight traffic manager on the Union Pacific, with headquarters at Chicago, was announced in the *Railway Age* of November 19, was born at Holyoke, Mass., on June 9, 1895 and entered the service of the Union Pacific in April, 1922, on which road he held various positions in the shops and store department. On June 21, 1923, he transferred to a clerical position in the purchasing department, and on March 16, 1926, he was assigned to special clerical work for the general freight agent at Omaha, Neb. On July 16, 1928, he was promoted to traveling freight agent with headquarters at Omaha, and on May 24, 1930, he was appointed freight traffic agent, with headquarters at Chicago. Mr. Burns was advanced to general agent, freight traffic department, with headquarters at New York, on May 1, 1935.

Russell D. Gray has been appointed general freight agent-solicitation of the New York, Ontario & Western, with headquarters at New York. Mr. Gray was born on November 2, 1899, at Wichita, Kansas, and was educated in the public

schools of St. Louis, Mo., and St. Paul, Minn.; Portland Academy, Portland, Ore.; Gilman Country School, Philadelphia, Pa.; and Princeton University. He was with the United States Marine Corps in 1917-



Russell D. Gray

1918 and from 1921-1929 was captain commanding Battery F, 240th Coast Artillery, Maine National Guard. Mr. Gray entered railroad service on March 1, 1932, as traveling freight agent in the New England territory for the Western Maryland, and on August 15, 1933, was promoted to commercial freight agent for New York City and New England. On October 15, 1936, Mr. Gray became freight representative of the Pennsylvania, with headquarters at Boston, Mass., the position he held until his appointment as general freight agent of the New York, Ontario & Western, effective December 1.

MECHANICAL

Clyde Bertrum Hitch, whose appointment as superintendent motive power of the Chesapeake & Ohio at Richmond, Va., was reported in the *Railway Age* of October 29, was born on November 19, 1881, at Terre Haute, Ind. Mr. Hitch served his apprenticeship on the old Vandalia Line,



C. B. Hitch

which is now a part of the Pennsylvania, at Terre Haute. After completing his apprenticeship, he served as machinist on various railroads, entering the service of the Chesapeake & Ohio on September 1, 1902, as a machinist at Lexington, Ky. On April 1, 1909, he was appointed general foreman at Lexington, and served in this capacity successively at Covington, Ky., and Hinton, W. Va., until January 1, 1921, when he was appointed master mechanic of the Clifton Forge division. In November, 1923, Mr. Hitch was appointed master mechanic of the Cincinnati division, including the Northern sub-division, and in February, 1930, his headquarters were transferred from Covington, Ky., to Russell, Ky., and his jurisdiction was extended over Russell terminal and the Ashland and Big Sandy divisions. Mr. Hitch was appointed general master mechanic, Western General division, in May, 1930, and in September, 1931, his jurisdiction was extended to the Eastern General division. He was appointed assistant superintendent motive power at Huntington, W. Va., in January, 1934, which position he held until his recent appointment as superintendent motive power, with headquarters at Richmond, Va.

ENGINEERING AND SIGNALING

F. P. Funda, division engineer on the Chicago, Rock Island & Pacific, with headquarters at Little Rock, Ark., has been transferred to Kansas City, Mo., replacing **Harry M. Long,** who has been transferred to Little Rock succeeding Mr. Funda.

A. F. White has been promoted to engineer of the Toronto, Hamilton & Buffalo, with headquarters at Hamilton, Ont., and will assume the duties heretofore performed by **R. L. Latham,** chief engineer, whose death on November 12 was reported in the *Railway Age* of November 19.

OBITUARY

Robert P. McCune, general agent, freight department, on the Wabash, with headquarters at Minneapolis, Minn., died on November 21.

Colonel John Stroughton Dennis, retired chief commissioner of colonization and development of the Canadian Pacific, died on November 27, at Victoria, B. C., at the age of 82. Mr. Dennis served as assistant to vice-president, with headquarters at Calgary, Alta., and in 1912 was appointed assistant to the president, with headquarters at Montreal, Que. He was promoted to chief commissioner of colonization and development, with the same headquarters, in March, 1917, and retired from that position in January, 1930. Mr. Dennis, a member of the Engineering Institute of Canada, was recently awarded its highest honor, the Sir John Kennedy gold medal.

John B. Payne, vice-president in charge of traffic of the Texas & Pacific, with headquarters at Dallas, Tex., died on November 9, as reported in the *Railway Age* of November 26. Mr. Payne was born at Bowling Green, Ky., on March 24, 1872, and graduated from Ogden College at Bowling Green. He entered railway service in 1889 at Topeka, Kan., in the mechanical department of the Atchison, Topeka & Santa Fe, and in November of that year went with Mexican Central, serving in the traffic department of that road. In March, 1893, he entered the service of the Texas & Pacific as a stenographer in the traffic department, and later became successively rate clerk and commercial agent. In 1912, he was promoted to assistant general freight agent, with headquarters at Dallas, Tex., and in 1916, he was advanced to general freight agent with the same headquarters. Mr. Payne was promoted to assistant freight traffic manager in May, 1917, and was further advanced to traffic manager the following year. In May, 1924, he was elected vice-president in charge of traffic.

C. E. Weaver, general manager of the Central of Georgia, with headquarters at Savannah, Ga., died there on November 27, at the age of 61. Mr. Weaver was born at Newark, N. J., on January 7, 1877, and was educated at Woodstock Academy (Woodstock, Conn.) and the Sheffield



C. E. Weaver

Scientific School of Yale University, where he received a Ph.B. degree in 1899. He entered railroad service in the same year as assistant engineer on the Mexican International (now part of the National of Mexico) in which capacity he served until 1906, when he became resident engineer for the Sonora Railway (now part of the Southern Pacific of Mexico). He was also appointed resident engineer of the Cananea, Yaqui River & Pacific (now part of the S. P. of Mexico), in 1908 and the following year he became engineer, maintenance of way, of the Sonora Railway and the Southern Pacific of Mexico. From March to June, 1911, Mr. Weaver was resident engineer on construction for the Illinois Central, then becoming roadmaster for the same road, in which capacity he served until 1913.

On the latter date he was appointed district engineer on the southern lines of that company. He was appointed engineer, maintenance of way on the Central of Georgia in 1916, and in 1926 was promoted to chief engineer of the road. In July, 1931, Mr. Weaver was appointed assistant general manager and chief engineer and in May, 1933, became general manager and chief engineer. He served as Southern regional director on the staff of Joseph B. Eastman, federal co-ordinator of transportation, with headquarters at Atlanta, Ga., returning to the Central of Georgia in July, 1936, as general manager.

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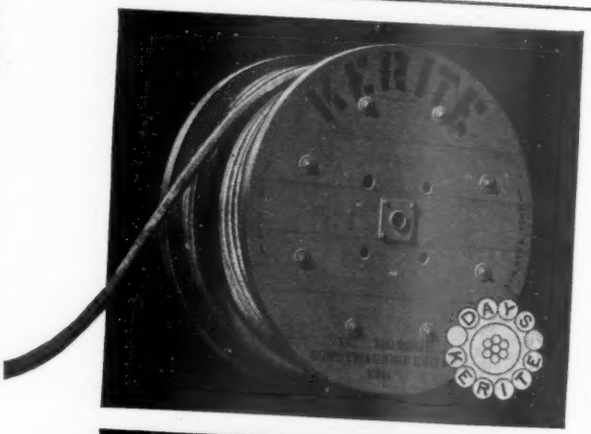
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